DOCUMENT RESUME

ED 366 318 IR 016 519

TITLE	Educational Technology Curriculum: K-12. Living with Technology: A Life-Long Learning Process.
INSTITUTION	South Orange-Maplewood School District, NJ.
PUB DATE	19 Jul 93
NOTE	442p.
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC18 Plus Postage.
DESCRIPTORS	*Computer Assisted Instruction; Computer Software; Curriculum; *Curriculum Development; Educational Media; *Educational Technology; Elementary Secondary Education; Lifelong Learning; *Technological Literacy
IDENTIFIERS	Information Age

ABSTRACT

Intended to guide teachers, librarians, and administrators in meeting the educational technology needs of students at all grade levels and subject areas, this curriculum focuses on how computers, telecommunications, automated libraries, television, and satellite links, impact schools. The curriculum addresses both the teaching of technology and the use of technology to teach. The curriculum is set up so that grades K-4 receive foundational information, grades 5-8 focus on skill-building, and grades 9-12 refine knowledge and skills. Expected outcomes for K-4 include the operation of a computer, scanner, CD-ROM drive, video camera, editing machine, printer, modem, and microphone; the ability to recognize computer terminology; and the ability to use a variety of software. Expected outcomes for grades 5-8 include the ability to use equipment at a more advanced level; ability to use keyboarding, database, word processing, spreadsheet, and graphics programs independently; and the ability to recognize technology as a force of change in the world and to make ethical decisions about its use. Expected outcomes for grades 9-12 include the ability to use more sophisticated equipment; the ability to select appropriate technologies and use them independently; the ability to assess the effects of technology on society and ethical implications; and the ability to recognize the impact of technology in the workplace and for life-long learning. (TMK)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

School District of South Orange-Maplewood
525 Academy Street
Maplewood, New Jersey 07040

ED 366 318

Educational Technology Curriculum K-12

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Presented
to the
Board of Education

July 19, 1993

IR016 579

BEST COPY AVAILABLE

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Marge Mingin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Dr. Ralph Lieber
Superintendent of Schools

SOUTH ORANGE-MAPLEWOOD BOARD OF EDUCATION MEMBERS 1993-94

John Bradley - President
George Robinson - First Vice President
Abigail Cotler - Second Vice President

David Ascher
Leo M. Gordon
William Madsen
Eugene Nelson
Rosemary Palmer
Shelley Slafkes

Acknowledgements

On behalf of the School District of South Orange-Maplewood, I wish to acknowledge with much appreciation the following group of very talented people for their contributions to the development and publication of this document:

Patricia Lewis and Darcie Milanette
Production

Angela Toomer, Patricia Lewis and Darcie Milanette
Editing and Desktop Publishing

Jim Neufell, Arlean Lambert, Nancy Ricketts, Shari Gal
Gail Schaeffer, Carol Swann-Daniels, Paula Hamm, George Binder
Shallee Page and Mary Lauer
Curriculum Unit Samples

Diane Paszkowski
Research and Development

Ralph Lieber, Superintendent
Support and Encouragement

and the

District Staff and Community Members
who served on the Technology Planning and Curriculum Committees

MANY THANKS!

Marge Mingin, Director of Media & Technology
July 19, 1993

Technology Curriculum Committee

Board of Education:
Eugene Nelson

Community:
Albert Gottlieb
Les Michelson

Administration:
Nancy Murray

Curriculum Staff:
Jim Memoli

Media and Technology Staff:
Marge Mingin
Frank Mullin
Diane Paszkowski

Special Education:
Carol Swann-Daniels

Elementary Schools:
Shari Gal, Tuscan
Arlean Lambert, Marshall
Nancy Ricketts, So.Mtn.Annex
Mary Sciaino, Seth Boyden
Janie Van Oss, Language Arts Resource Teacher, K-4

Middle Schools:
Joan McCutcheon, MMS, Grade 7, Science
Richard Moss, MMS, Grade 7, Math
Jim Neufell, MMS, Grade 7, Math and Science
Kevin Smith, MMS, Grade 5, Math and Science
Janine Guida, SOMS, Grade 5, Language Arts and Social Studies
Paula Hamm, SOMS, Math and Science

Columbia High School:
Joseph Fanning, Library
George Binder, Math
Louis Brown, Social Studies
Matt Krempasky, Music
Mario Pedoto, Business
Jay Seldin, Industrial Arts
Becky Stern, English

Table of Contents

Rationale..... p. 1

Philosophy and Overview..... p. 2

Proficiencies..... p. 8

Scope and Sequence Strands..... p. 9

Scope and Sequence by Grade Level:

- **Kindergarten**..... p. 14
- **First**..... p. 19
- **Second**..... p. 24
- **Third**..... p. 30
- **Fourth**..... p. 39
- **Fifth**..... p. 48
- **Sixth**..... p. 78
- **Seventh**..... p.120
- **Eighth**..... p.151
- **Ninth - Twelfth**..... p.182

Activities in Other Disciplines..... p.207

Guidelines for Curriculum Coordination Meeting..... p.210

Sample Lesson Plan..... p.211

Appendix I ...Glossary of Educational Technology Terms

RATIONALE

Literacy may be characterized as the ability to express and receive ideas. Traditionally, literacy has been associated with writing and reading print, but in today's world our understanding of literacy must be expanded to include electronic symbols as well. Computers, satellites, television, radio, and telephones have made it possible for anyone to overcome political, language, and distance barriers. News from Chernobyl and Kuwait is available instantly; in fact, the generals planning strategy during Desert Storm were watching CNN for up-dates along with those of us at home.

By the time a child enters school, he or she will have watched 9,000 hours of television. Many children will have interacted with computers, and almost all will have used the telephone.

There is no turning back the clock -- the world at large is using technology in ever-increasing formats and intensity, and our children must learn to live with and use this technology appropriately.

As noted in the introduction to Educational Technology in New Jersey: A Plan for Action, "...a student [today] is exposed to more information in one day than a person living in the Middle Ages was exposed to in a lifetime." (p.1)

One of the greatest challenges of education in such an information-rich society is how to integrate these technologies into the routines of the classroom. It is the purpose of this curriculum to guide teachers, librarians and administrators in how to meet the educational technology needs of our students at all grade levels and in all subject areas. It is essential that educators join other leaders in society and implement appropriate applications of technology in our schools. Without that effort, our students will not be truly literate and ready to lead successful lives in the information age.

PHILOSOPHY AND OVERVIEW

Educating our children means helping them develop their skills and learn new ones, encouraging their excitement about life and learning, cultivating and expanding their interests, and preparing them for life. These tasks have always been challenging, but never more so than now when we live in a world where knowledge doubles every three years, where the "global village" has become a reality, and where research has supported what good teachers have always known - children learn in different ways and at different rates. What has caused so much of the fast-paced change we see all around us? And what can help our children master this dizzying explosion of knowledge? The answer to both questions is the same - technology.

Technology in the form of computers, telecommunications, automated libraries, television, and satellite links has not only transformed our lives but is also fostering a profound impact on how schools meet the needs of children. Now, educators must both "teach technology" and "use technology to teach." Recognizing this, the Educational Technology Curriculum, K-12 addresses both components in its Scope and Sequence Strands.

In addition, the integration of technology into the classroom offers the potential to more fully address the various learning styles of students. Howard Gardner has identified seven types of learning that every child employs to some degree; technology enables the teacher/librarian to expand the resources available to accommodate these learning styles:

1. Word processing and CD-ROM's for linguistic learning;
2. Exploratory number games and mysteries for logical-mathematical learning;
3. Maps, charts, diagrams, and puzzles for spatial learning;
4. Computerized sound systems, compact discs, and music software for musical learning;
5. Draw and paint programs and manipulatives for bodily-kinesthetic learning;
6. E-mail, video-cameras, and presentation packages for interpersonal learning; and
7. Poetry programs, creative writing, and on-line data-base searching for intrapersonal learning.

Using technology in the classroom should be easy, exciting, useful, successful, and capable of broadening the scope of both teacher and student. To make that happen, a technology curriculum must include instruction on how to use the tools of technology as well as incorporation of these tools into the teaching of traditional subjects. Ideally, there would also be a bridge between these two strands to keep a constant flow of support and stimulation between the two. With that in mind, the technology curriculum for the South Orange/Maplewood Schools has been framed as follows:

Technology Skills

Interdisciplinary

Technology in the Disciplines

OVERVIEW

Grade:	Model of Instruction:	Delivered by:	Expected Student Outcomes:
K - 4: **Foundation**	Every class to TRR once a week. Half of class meets with Librarian; other half, with Teacher.	Primary Instructor: Librarian Secondary Instructor: Teacher(s)	• Ability to operate a computer, scanner, CD-ROM drive, video camera, editing machine, printer, modem, and microphone. • Ability to use OPAC terminal. • Ability to recognise computer terminology and use a variety of software programs for learning, for creating multi-media projects, and for tele-communicating.
5 - 8: **Skill-building**	Classes scheduled to computer labs and library on a regular basis.	Primary Instructors: Librarian Teacher(s)	• More advanced ability to use equipment listed above. • Ability to use keyboarding, database, word processing, spreadsheet, and graphics programs independently. • Ability to recognise technology as a force of change in the world and to make ethical decisions about its use.
9 - 12: **Refinement**	Classes held in library and/or computer labs as needed to complete coursework.	Primary Instructor: Teacher Secondary Instructor: Librarian(s)	• Ability to use more sophisticated equipment. • Ability to select technologies appropriate to perform required tasks and use them independently. • Ability to assess the degree to which technology is affecting society and its implications for ethical considerations. • Ability to recognise the impact of technology in the workplace and the necessity for life-long learning.

BEST COPY AVAILABLE

Grades K-4: Foundation

In the elementary schools, the library will form the hub of new "Media/Technology Resource Rooms." Here, updated computers, mini-TV studios, and on-line library resources will be housed together to create a dynamic learning environment. Using these resources, teachers can more readily provide individualized instruction. Some children learn best by reading, some by listening, and some through hands-on experiences. With the materials available in the Technology Resource Room, students can read a book in print or on CD-ROM, write and publish a story that includes their original artwork, use a computerized math or language program that easily adjusts to accommodate their needs, send letters to electronic penpals in other states or countries, request information from scientists around the world, write plays and video-tape their classmates performing them, add their own voices and music to multimedia presentations - the possibilities are endless. Diverse as these activities are, they all have the same focus: to excite children about learning, make them comfortable with the tools of technology, and educate them to their fullest potential.

Technology Skills

In the elementary schools, technology awareness and introductory skill building will be incorporated into the Library Program. For example, students will be taught traditional indexing skills as they learn to use a print encyclopedia. In addition, they will have access to Grolier's Encyclopedia on CD-ROM and Compton's on America On-line (an on-line data-base) and will be taught how to access information by getting in and out of windows, how to print, etc.

Technology in the Disciplines

In the classroom, students will incorporate technology into their traditional learning through computers, e-mail, and Television. For example, during Writing Workshop, they can use a word processing program during brainstorming to put their ideas on-screen for easy sorting later; they can generate text and edit it; they can create graphics and QuickTime movies; and they can send their finished work to students in other classrooms or schools via e-mail.

These two strands will be bridged by the librarian who will meet with the teachers to plan co-ordinated lessons. For example, while working on a unit on animals in winter, the students could use National Geographic on CD-ROM to import pictures; they could use e-mail to contact a zoologist at the National Zoo for more information; they could get data and charts from the on-line encyclopedias; they could use music or tapes of wilderness sounds; they could use a video camera to film squirrels getting food; etc.

Grades 5-8: Skill Building

In middle school, the emphasis shifts to mastery of the key skills required in a technological world. Along with more advanced use of television equipment and library resources, updated computer labs will allow for more intensive keyboarding, word-processing, database and spreadsheet generation, desktop publishing, and multimedia presentations. Computers will also facilitate the creation of original stories and artwork and help students who "can't draw" through the use of paint and draw software. Students who "can't understand" statistics easily see significant changes and comprehend trends when they can graph numbers on screen. They learn, too, how interpretations can be influenced as they compare the same data in bar-graphs, pie-charts, and picture-graphs. History and science come to life through the use of simulation programs. This type of software is designed to create on-screen what would be impossible or too dangerous to re-create in the classroom. Student reenactments of scientific and historic events can be broadcast on closed-circuit TV. Putting these tools in our students' hands will provide them with the opportunity to master the basic skills, increase their exposure to the world, and expand their interests.

Technology Skills

In the Library Program, students will be building upon the skills learned in K-4. They will continue to access electronic data-bases to create reports and write letters to Chambers of Commerce and Departments of State; they will use more sophisticated CD-ROM programs such as historical atlases. These technologies will afford a level of understanding that no print media can. For example, maps illustrating border changes can be superimposed on each other on the computer for instant understanding of how countries have changed over the centuries.

In computer courses, students will be taught the discrete skills that are required to master computer technology: keyboarding, word processing, data-bases, spreadsheets, paint and draw, and graphing.

Technology in the Disciplines

In each class, access to multi-media, TV, CD-ROM, and e-mail will provide teachers with many new approaches to their subjects. In math, a computer graphing program can be used to turn the students' reports on probability into impressive presentations whose various options (pie-charts, bar graphs, etc.) help students "see" their data and how different formats can influence interpretations.

In language arts, students can send their poems and stories across the world for peer editing and review.

In science, a computerized paint and draw program can be used to create representations of cells and flowers to be used as detailed illustrations in student reports.

Here, as in K-4, the Librarian can connect these two components by arranging for access to specific data-bases, by suggesting ideas for investigation, and by helping to coordinate the media required for student-designed multi-media presentations.

Grades 9-12: Refinement

In order to provide more in-depth study and sophistication, technology at the high school is discipline-based. Each major subject area (i.e., math, science, social studies, language arts, and foreign language) will have its own Technology Resource Room, and all will be linked to the library for data retrieval and research. In addition, key areas (e.g., art, business, music) will continue to expand their technological capacity so they can best prepare students interested in pursuing these fields as careers. With this format, students will refine their use of technology so they can use it in new ways: they will write software programs as well as run them; they will compose music as well as record it; they will create screen simulations, not just interact with them.

Technology Skills

At the high school level, specialized technology skills are offered in specific courses such as:

- Automotive Technology
- Computer Programming
- Film Making
- Information Systems
- Music Technology
- Production Journalism
- Technology and Problem Solving
- Television Production

These courses allow students to become proficient with the technological tools required to be specialists in areas of interest to them. Through "hands-on" use of sophisticated equipment, students can achieve mastery of these tools as well as prepare for technological careers.

Technology in the Disciplines

With Technology Resource Rooms and circulating multi-media equipment available in all academic areas, students can build on the skills that they learned in middle school to select the appropriate technologies necessary to create their own reports and presentations.

Teachers will have a variety of computer courseware available as well as access to e-mail for student communications. For example, students in foreign language classes may have "electronic penpals" so that they can interact with a native speaker; science classes can use simulation programs to better visualize and understand concepts of motion and the consequences of natural phenomena; the Math Lab will be able to access Internet through Stevens Institute to "chat" with eminent mathematicians, scientists, and engineers around the world.

At Columbia High School, the Library Program continues at a more sophisticated level. Through on-line searching and links to Seton Hall University, students can do research including accessing primary source materials. At least 95% of the research that is required for academic classes is done through the library thereby providing a natural bridge across all disciplines. Other bridges include Broadcast Journalism which combines traditional English with television technology and Journalism which combines English with electronic publishing.

Grades K-12

Perhaps technology's most significant development has been to create a huge, real-time audience for events as they happen around the world. Response time keeps getting shorter as available information grows larger. At every grade from K-12, electronic mail, closed-circuit TV, satellite hook-ups, and educational programs such as CNN Newsroom will be available to assure that all students have access to each other and to the whole world. This telecommunications network, along with the other technology resources, will enable our students to become technologically literate, ready to participate as full partners in our increasingly electronic world.

In addition to the impact it has had on the content of curriculum, technology also has influenced the delivery of curriculum:

	FROM	TO
Instructional Delivery	teacher control	student centered classroom
Instructional Planning	separate subjects	integrated content
Taxonomy	comprehension	higher order thinking skills
Performance	individual effort	team effort
Assessment	formal analysis paper/pencil	informal/formal holistic performance-based outcomes
Questioning Techniques	literal	inferencial
Instructional Focus	passive short-term memory	active - strategic long-term memory
Media	video audio text	interactive (combining video, audio, and text)

TECHCURR.OVR

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM

EDUCATIONAL TECHNOLOGY PROFICIENCIES, K-12

As appropriate to their grade level, students will be able to:

1. Explain the concept of technology in general and the history of computer technology in particular, how technology influences society and education, and the moral issues involved in its use;

2. Describe the architecture and environment of the computer, identify its basic parts, and use appropriate vocabulary to discuss the computer and its functions;

3. Assemble equipment, do trouble-shooting, and perform routine maintenance;

4. Explain the concept of programming, particularly as a process for solving problems, and apply the use of flow-charting, webbing, and concept maps to develop more efficient thought processes;

5. Identify applications of computer technology and demonstrate competency in keyboarding, word-processing, data-bases, spreadsheets, graphics, hypermedia, information retrieval, and communications;

6. Use computer modeling/simulations to visualize concepts, develop models, and demonstrate the interaction of multiple variables;

7. Become proficient in selecting technologies appropriate for required tasks and linking various technologies as needed, including creating video programs and multi-media illustrations of real-life data;

8. Recognize the vulnerability of the technological environment and learn to safeguard against viruses, pirating, and unauthorized access;

9. Describe how technology is used in the world outside of school and the implications of technological diversity for making career choices; and

10. Recognize the impact of increasingly fast-paced change and make appropriate adjustments as confident problem-solvers.

Revised: July 1995
TECHPROF

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM

Scope and Sequence Strands

Strand A. Computer Awareness	K	1	2	3	4	5	6	7	8	High School
1. Identify external parts of a computer:										
a. cpu case, disk drive, keyboard, monitor;	A I	A I	I	I D	D	R	R	R	R	I,R
b. peripherals: printer, mouse, modem, scanner, microphone, speaker, CD-ROM drive, etc.; and	A	A	I	I D	D	R	R	R	R	I,R
c. computer access: keyboard, mouse, pen, modem, voice, etc.	A	A	I	I D	D	R	R	R	R	I,R
2. Explain how a computer works (using appropriate terms for each grade level):										
a. Describe the major components of the CPU (RAM, ROM, Motherboard, power supply, etc.);				A	A	I	I D	D	D	R
b. Explain the basic operation of a computer system in terms of what happens to data: input, processing, output; and				A	A	I	I D	D	D	R
c. Describe the computer as a machine.				A	A I	D	R	R	R	R
3. Describe how a computer system includes people, hardware, software, data, documentation, and communications; understand increased communication and availability of information made possible through computer use and networking.	A	A	I	I D	I D	R	R	R	R	R

Key: A - Acquaint I - Instruct D - Develop in Depth R - Reinforce

Strand A. Computer Awareness	K	1	2	3	4	5	6	7	8	High School
4. Describe common uses of computers in business, government, home, and school, and how they affect people's lives; describe ways people might be affected if a computer system fails to operate properly.	A	A	I	I D	I D	R	R	R	R	R
5. Identify computer-related occupations and list skills required for future employment.	A	A	I	D	R	R	R	R	R	R
6. Read computer-related books and magazines.				A	A	R	R	R	R	R
7. Utilize manuals.					A	A	I D	R	R	R
8. Identify some limiting considerations for using computers, such as cost, software availability, and storage capacity.						A	A	A I	I	D,R
9. Trace the history of computers.						A	A	A	A	I,D
10. List the characteristics of each generation of computers.										A,I,D,R
11. Understand the moral issues involved with computer use including copyright and privacy laws, data management, and viruses.				A	A	I	I	I	I	I,D,R
12. Feel confident about the ability to use and control computers.	A R	R	R	R	R	R	R	R	R	R

Strand B. Computer/Technology Interaction	K	1	2	3	4	5	6	7	8	High School
1. Keyboarding Skills:										
a. identify and use appropriate letters and numbers;	A	I	I	I D	D	R	R	R	R	I,R,D
b. identify and use special purpose keys (return, escape, shift, spacebar, control, alternate, delete, caps lock, home key, etc.);	A	I	I	I D	I D	R	R	R	R	R
c. develop correct keyboarding posture, fingering, and accuracy; and				A	A	I D	R	R	R	R
d. demonstrate cursor control movement with keys and with a mouse.	A	I	I	I D	D	R	R	R	R	R
2. Utility Skills:										
a. demonstrate proper care of software/hardware and troubleshoot problems;	A I	A I	I	I D	I D	R	R	R	R	R
b. demonstrate how to insert a disk, turn on the computer, boot program; log on to network;	A	A I	I	I D	D	R	R	R	R	R
c. demonstrate the use of a program including the ability to save, escape from, and continue as needed;		A I	I	I D	I D	R	R	R	R	R
d. explain simple error messages and take appropriate action; and	A	A	A	I	I D	R	R	R	R	R
e. demonstrate the ability to:										
1) operate a printer,	A	A	A I	I	I D	R	R	R	R	R
2) load paper, and					A I	D	R	R	R	R
3) change ribbons/cartridges.								A	A	A,I,D,R
3. Specific programs:										
a. use and interact with a drill and practice program,	A I	I D	I D	R	R	R	R	R	R	I,R,D

Key: A - Acquaint I - Instruct D - Develop in Depth R - Reinforce

Strand B. Computer/Technology Interaction	K	1	2	3	4	5	6	7	8	High School
b. use and interact with a simulation program,	A	I	I D	R	R	R	R	R	R	I,R,D
c. use and interact with a problem-solving program,	A	A I	A I	I D	I D	R	R	R	R	I,R,D
d. use a word processing program	A	A I	I D	D	R	R	R	R	R	I,R,D
1) with spell-check and				A I	A I	I	D	R	R	R
2) with thesaurus,						A I	I D	R	R	R
e. use a database program,				A	A	A	A	I D	R	R
f. use a spreadsheet program,								A	I D	I,D,R
g. use a paint/draw program,	A	A	A	A I	I D	R	R	R	R	R
h. use a utility program,						A	A	A	A	I,D,R
i. use a graphics program,		A	I	I D	D	R	R	R	R	R
j. use a hypermedia program, and						A I	D	D	R	R
k. use an on-line information retrieval program.			A	I	I D	R	R	R	R	R
4. Peripherals:										
a. use a scanner,			A	I	D	R	R	R	R	R
b. use a CD-ROM,			A	I	D	R	R	R	R	R
c. use a laser disc player,			A	I	D	R	R	R	R	R
d. use a projection device,			A	I	D	R	R	R	R	R
e. use a modem for E-mail and communications programs,			A	I	D	R	R	R	R	R

Strand B. Computer Technology Interaction	K	1	2	3	4	5	6	7	8	High School
f. use a FAX			A	I	D	R	R	R	R	R
g. use a music synthesizer						A	A	A	A	I,D,R
5. Television										
a. use a camera,				A	I	I	I	I	I	D,R
b. use editing equipment,				A	I	I	I	I	I	D,R
c. demonstrate abiliity to produce a video program,				A	I	I	I	I	I	D,R
d. demonstrate ability to broadcast.				A	I	I	I	I	I	D,R
6. Independent Mastery:										
a. identify appropriate applications to complete required tasks and execute them efficiently;				A	A	I	I	D	D	A,I,D,R
b. demonstrate ability to integrate applications and link technologies (i.e., multi-media);				A	I	I	I	D	D	A,I,D,R
c. use knowledge of applications, information retrieval, and problem-solving strategies to learn and perform independently; and								A	A I	A,I,D,R
d. use technology to facilitate cooperative learning and function as a productive group member.			A	A I	I D	R	R	R	R	A,I,D,R

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** KINDERGARTEN **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.1	#2	Students will be able to identify the basic parts (hardware) of a computer.	A I	Hardware is all of the physical components of a computer, including any accessories used with/attached to a computer.	Computer CPU Drives (disk) CD ROM Keyboard Monitor Printer Cables Microphones Mouse Mouse Button Mouse Pad Modem Scanner Speaker	Computers Peripherals Posters Worksheets	Librarian	Librarian, teacher observation/ worksheet

[illegible]

[illegible]

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** KINDERGARTEN **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.3,4,5,12	#5, 6, 9	Students will be able to describe computer systems and how they are used in various occupations.	A	Discuss how computers are used in most jobs today. People use information at home, school, work and in the community.	Technology Hardware Software Communications Networking Computer System	Computers Software/programs Posters Videos Books/stories	Librarian Teacher	Librarian, teacher observation/ worksheet

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** KINDERGARTEN **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.1	#5	Students will be able to properly care for and utilize the computer.	A	Keyboard (typing) is a way to communicate with the computer. A mouse could also be used.	Parts of Keyboard: Keyboard Keys Return Escape Shift Spacebar Control Alternate Delete Cap Lock Home Key Arrow Cursor Backspace Mouse Mouse Ball	Computers Peripherals	Librarian	Student will be able to care for and use a computer.

TBH IR 1/88 KR1

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** KINDERGARTEN **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 2	#5	Students will be able to properly care for and use thee computer and printer.	A	Demonstrate how to care for software, load and execute software, and operate a printer.	Software Boot Log On Save Escape Error Message Cartridge Disk Program Ribbon Load Paper	Computers Software	Librarian	Student will be able to care for a computer and software.

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** KINDERGARDEN **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3	#5	Students will be able to use various kinds of computer programs and applications.	A I	Introduce and instruct in different types of programs: Drill and practice Simulation Problem-solving Word processing	Document Font Page guide Edit Undo Delete Zoom Bucket I-beam	Computers Software Programs (e.g. Early Games for Young Children, Millie's Math House, The Boars Tell Time, KidPix)	Librarian	Librarian/ Teacher observation/ worksheet

TEC 18.1 BR KB3

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** ONE **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.1	#2	Students will be able to identify the basic parts (hardware) of a computer.	A I	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes.	Computer CPU Drives (disk) CD ROM Keyboard Monitor Printer Cables/power cord Microphones Mouse Mouse Button Mouse Pad Modem Scanner Speaker Desktop Laptop Tower case	Computers Peripherals Posters Worksheets Models	Librarian	Librarian/ teacher observation/ worksheet

TECHNOLOGY (A)

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** ONE **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 3,4,5,12	#5, 6, 9	Students will be able to describe computer systems and how computers help people work.	A	Discuss how computers are used in most jobs today. People use information at home, school, work and in the community. Libraries have electronic information as well as print information.	Technology Hardware Software Communications Networking Computer System Telephone	Computers Software/programs Posters Videos Books/stories Computer-users "Show & Tell"	Librarian Teacher	Librarian, teacher observation/ worksheet

PRINTED IN U.S.A.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

33

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** ONE **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 1	#5	Students will be able to properly care for and utilize the computer.	A I	Keyboard (typing) is a way to communicate with the computer. A mouse could also be used. Keyboards have keys with letters, numbers, and special purpose keys.	Parts of Keyboard: Keyboard Keys Return Escape Shift Spacebar Control Alternate Delete Cap Lock Home Key Arrow Cursor Backspace Mouse Mouse Ball	Computers Peripherals Software Programs (e.g. Kids on Keys.)	Librarian	Student will be able to care for and use a computer.

TECH/CURR.181

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

41

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** ONE **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 2	#5	Studenta will be able to properly care for and use thee computer and printer.	A I .	Demonstrate how to care for and use software applications, load and execute software, and operate a printer.	Software Boot Log On Save Escape Error Message Cartridge Disk Program Ribbon Load Paper Reboot Cancel	Computers Software Printer	Librarian	Librarian/Teacher obaervation/ demonstration.

[illegible]

key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** ONE **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 3	#5	Students will be able to use various kinds of computer programs and applications.	A I	Introduce and instruct in different types of programs: Drill and practice Simulation Problem-solving Word processing Paint/Draw Graphics	Document Font Page guide Edit Undo Delete Zoom Bucket I-beam	Computers Software Programs (e.g. Reader Rabbit I, Millie's Math House, The Boars Tell Time, KidPix, KidsTime, Reading Maze, Mixed Up Mother Goose, Easy As A,B,C, Alphabet Blocks, The Writing Center)	Librarian	Librarian/ Teacher observation/ application product samples.

ACTIVITIES (S)
ey A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** Two **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.1	#2	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work.	I	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers	Computer CPU Drives (disk) CD ROM Keyboard Monitor Printer Cables/power cord Microphones Mouse Mouse Button Mouse Pad Modem Scanner Speaker Desktop Laptop Tower case PC Mainframe Portable	Computers Peripherals Posters Worksheets Models	Librarian	Librarian/ teacher observation/ worksheet

TECHCURR3A1

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** Two **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.3,4,5,12	#5,6,9	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work.	I	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers. On-line computer systems let people anywhere talk to each other.	Computer CPU Drives (disk) CD ROM Keyboard Monitor Printer Cables/power cord Microphones Mouse Mouse Button Mouse Pad Modem Scanner Speaker Desktop Laptop Tower case PC Mainframe Portable On-line Access	Computers Peripherals Posters Worksheets Models America On-line (Career Center)	Librarian	Librarian/ teacher observation

43

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** Two **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.1	#5	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work.	I	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers. On-line computer systems let people anywhere talk to each other. A cursor is the flashing line on your monitor. A mouse uses an arrow or pointer.	Computer CPU Drives (disk) CD ROM Keyboard Monitor Printer Cables/power cord Microphones Mouse Mouse Button Mouse Pad Modem Scanner Speaker Desktop Laptop Tower case PC Mainframe Portable On-line Access Cursor Arrow/Pointer	Computers Peripherals Posters Worksheets Models America On-line (Career Center) Software: (e.g. Ultra Key)	Teacher/Librarian	Librarian/ teacher observation

PROFICIENCIES
Key: A Acquaint I Instruct D Develop in Depth R Reinforce

51

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K.2 **Grade Level:** Two **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.2	#5	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work.	A I	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers. On-line computer systems let people anywhere talk to each other. A cursor is the flashing line on your monitor. A mouse uses an arrow or pointer. Acquaint student with network server log-on for library database: On-line, Public Access Catalog (OPAC).	Computer CPU Drives (disk) CD ROM Keyboard Monitor Printer Cables/power cord Microphones Mouse Mouse Button Mouse Pad Modem Scanner Speaker Desktop Laptop Tower case PC Mainframe Portable On-line Access Cursor Arrow/Pointer Server Network OPAC	Computers Peripherals Posters Worksheets Models America On-line (Career Center) Software: (e.g. Ultra Key) CLS OPAC	Librarian	Librarian observation

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** Two **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3	#5	Students will be able to describe compute vstems, how they are used in various occupations and how computers help people work.	I D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers. On-line computer systems let people anywhere talk to each other. A cursor is the flashing line on your monitor. A mouse uses an arrow or pointer. Acquaint student with network server log-on for library database: On-line, Public Access Catalog (OPAC).	Computer CPU Drives (disk) CD ROM Keyboard Monitor Printer Cables/power cord Microphones Mouse Mouse Button Mouse Pad Modem Scanner Speaker Desktop Laptop Tower case PC Mainframe Portable On-line Access Cursor Arrow/Pointer Server Network OPAC	Computers Peripherals Posters Worksheets Models America On-line (Career Center) Software: (e.g. Ultra Key) On-line Public Access Catalog OPAC Columbia Library Systems (CLS)	Librarian	Librarian observation

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: K-2 **Grade Level:** Two **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.4	#5	Students will be able to identify and use peripherals as appropriate.	A	Using a computer and software, a scanner translates or "copies" what it "sees" and creates a file. A FAX machine copies what it sees on to paper. Any piece of hardware attached to the outside of a computer is called a pheripheral. Examples are modems, printers, scanners, FAX.	Scanner CD-ROM Projection Device Modem FAX	FAX Scanner CD-ROM Modem Projection Device	Librarian	Librarian observation

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** THREE **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.1	#2	The student will be able to identify the basic parts (hardware) of a computer	I D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers	Computer CPU Drives (disk) CD ROM Keyboard Monitor Printer Cables/power cord Surge protector Microphones Mouse Mouse Button Mouse Pad Modem: internal/external Scanner Speaker Desktop Laptop Tower case PC Mainframe Portable	Computers Peripherals Posters Worksheets Models	Librarian	Librarian/ teacher observation/ worksheet

COMPUTER SA1
A Acquaint I Instruct D Develop in Depth R Reinforce

53

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** THREE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2	#3	The student will be able to explain how a computer is assembled and works	A	Computers process information using application software and instructions from the keyboard and mouse. The actual information processing occurs within the CPU (Central Processing Unit). The results are sent to a monitor, printer, storage device or speaker	CPU Memory Data Processing Software Information Hard disk drives Floppy disk drive Diskettes CD ROM's Mouse Keyboard Pen	Computers Peripherals Posters Worksheets Diskettes	Librarian	Librarian, teacher observation/ worksheet

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** Three **Cooperating Department:** Grade Level

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.3,4,5,11,12	#5,6,9	Students will be able to describe computer systems, including people, hardware, software, data and documentation. Students will become acquainted with copyright laws and viruses associated with on-line computer systems.	I D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. There are a variety of computer types and systems. Computers can be used as stand-alones or be networked with other computers. Computer books, magazines and manuals help provide information about new technologies as well as ("how to" steps in operating computers or using on-line systems to send/receive messages/mail).	Computer/CPU Drives (disk) CD ROM Keyboard/Mouse Mouse Button/Pad Monitor Printer Cables/power cord Microphones Modem Scanner Speaker Desktop/Laptop Tower case PC/Mainframe Portable On-line Access Documentation Copyright/Viruses E-mail Sign in/log on	Computers Peripherals Posters Worksheets Models America On-line (Career Center) Kids & Computers Nibble On-line: KIDNET America On-line	Librarian	Librarian/ teacher observation/ activities

PROJECTURR.SAS

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** Three **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.1	#5	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work with an awarness of appropriate posture/accuracy when using keyboard and/or mouse.	I D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers. On-line computer systems let people anywhere talk to each other. A cursor is the flashing line on your monitor. A mouse uses an arrow or pointer. Cursor control movement can be done with either "keys" (arrows) or mouse. Keys need to be pressed; mouse needs to be clicked.	Computer/CPU Drives (disk) CD ROM Monitor Printer Cables/power cord Microphones Keyboard/Mouse Mouse Button Mouse Pad Modem Scanner Speaker Desktop/Laptop Tower case PC/Mainframe Portable On-line Access Cursor/Arrow Mouse Pointer Insertion Point Backspace key Escape key	Computers Peripherals: (e.g. keyboard, mouse) Posters Worksheets Models America On-line (Career Center) Software: (e.g. Ultra Key)	Librarian	Librarian/ teacher observation

TECHCURR.SRI
Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** THREE **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 2	#3,5	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work including error messages and troubleshooting.	I D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers. A cursor is the flashing line on your monitor. A mouse uses an arrow or pointer. On-line computer systems let people anywhere talk to each other. Acquaint student with network server log-on for library database: On-line, Public Access Catalog (OPAC). Networks require passwords for use.	Computer/CPU Drives (disk) CD ROM Keyboard/Mouse Monitor Printer Cables/power cord Microphones Mouse Button/Pad Modem Scanner Speaker Desktop/Laptop Tower case PC Mainframe Portable On-line/Access Cursor Arrow/Pointer Server Network OPAC Password	Computers Peripherals Posters Worksheets Models America On-line (Career Center) Software: (e.g. Ultra Key) CLS OPAC	Librarian	Librarian observation

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** Three **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3	#5	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work.	A I D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers. A cursor is the flashing line on your monitor. A mouse uses an arrow or pointer. On-line computer systems let people anywhere talk to each other. Acquaint student with network server log-on for library database: On-line, Public Access Catalog (OPAC), spell-check, thesaurus, database, on-line retrieval.	Computer/CPU Drives (disk) CD ROM Keyboard/Mouse Mouse Button/Pad Monitor Printer Cables/power cord Microphones Modem Scanner Speaker Desktop/Laptop Tower case PC/Mainframe Portable On-line Access Cursor Arrow/Pointer Server Network OPAC Applications Retrieval Thesaurus Spell-check	Computers Peripherals Posters Worksheets Models America On-line (Career Center) Software: (e.g. Ultra Key) On-line Public Access Catalog (OPAC), Columbia Library Systems (CLS) Computer/Software programs	Librarian/Teachr	Librarian/Teacher observation

TECHCURR.SRS
Key: A Acquaint I Instruct D Develop in Depth R Reinforce

BEST COPY AVAILABLE

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** Three **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.4	#5	Students will be able to identify and use peripherals as appropriate.	I	Any piece of hardware attached to the outside of a computer is called a peripheral. Examples: modems, printers, scanners, FAX. Using a computer and software, a scanner translates or "copies" what it "sees" and creates a file. A FAX machine copies what it sees on to paper. Modems are required for E-mail and other communications packages. A FAX machine requires a telephone line connection.	Scanner CD ROM Projection device Modem FAX E-mail Laser discs	FAX Scanner CD-ROM Modem Projection device E-mail Laser discs	Librarian	Librarian observation

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** Three **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.5	#5,6,7	Students will be able to demonstrate proper use of TV technology.	A	Introduce use of TV camera, editing, producing a video, and broadcasting.	Camera Video program Broadcast	Equipment in TV Studio	Librarian	Librarian/teacher observation

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** Three **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.6	#5,6,7	Students will become acquainted with the processes of identifying and integrating applications and link technologies.	A	Computers and linked technologies offer ways of facilitating group and individual projects and activities.	Information retrieval Link technologies	Computer Software Peripherals	Librarian	Librarian/teacher observation

TBC1K1783.554

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** FOUR **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.1	#2	To identify the basic parts (hardware) of a computer	D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers including a variety of portable computers.	Computer CPU Drives (disk) CD ROM Keyboard Monitor Printer Cables/power cord Surge protector Microphones Mouse/ Track ball Mouse Button Mouse Pad Modem: internal/external Scanner Speaker Desktop Portable/laptop/ notebook/palmtop Tower case PC Mainframe	Computers Peripherals Posters Worksheets Models	Librarian	Librarian/ teacher observation/ evaluation of hands-on demonstration/ worksheets.

TECHCURR.6A1

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** FOUR **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 2	#3	To explain how a computer is assembled and works	A I	Computers process information using application software and instructions from the keyboard and mouse. The actual information processing occurs within the CPU (Central Processing Unit). The results are sent to a monitor, printer, storage device or speaker. Information (data) is entered, stored and displayed. All information is given an address on either a floppy diskette or the hard drive. Programs/applications are installed on the hard drive. Menus help run the program and offer choices.	CPU Memory Data (Information) Software Hard disk drives Floppy disk drive Diskettes CD ROM's Mouse Keyboard Pen Address Install Default Desktop File/folder Menu/directory Icon	Computers Peripherals Posters Worksheets Diskettes Charts	Librarian	Librarian, teacher observation/ worksheet Hands-on demonstration

TRICIA I RR 4A2
Key: A Acquaint I Instruct D Develop in Depth R Reinforce

73

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** FOUR **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 3,4,5,6,11,12	#5,6,9	Students will be able to describe computer systems, including people, hardware, software, data and documentation. Students will become acquainted with copyright laws and viruses associated with on-line computer systems.	I D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. There are a variety of computer types and systems. Computers can be used as stand-alones or be networked with other computers. Computer books, magazines and manuals help provide information about new technologies as well as ("how to" steps in operating computers or using on-line systems to send/receive messages/mail).	Computer/CPU Drives (disk) CD ROM Keyboard/Mouse Mouse Button/Pad Monitor/Printer Cables/power cord Microphone Modem Scanner Speaker Desktop/Laptop Tower case PC/Mainframe Portable On-line/Access Documentation Copyright/Viruses E-mail Sign in/log on Reply Send Message	Computers Peripherals Posters Worksheets Models America On-line (Career Center) Kids & Computers Nibble On-line: KIDNET America On-line NJ LINK	Librarian	Librarian/ teacher observation/ activities

TR/IR/1RR-AA

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** FOUR **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 1	#5	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work with an awarness of appropriate posture/accuracy when using keyboard and/or mouse.	A I D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. There are different types of computers. A cursor is the flashing line on your monitor. A mouse uses an arrow or pointer. Cursor control movement can be done with either "keys" (arrows) or mouse. Shift key does upper case letters. Keypad on keyboard is a quick way to enter numbers.	Computers/CPU CD-ROM Monitor Printer Cables/power cord Microphones Keyboard/Mouse Mouse Button/Pad Modem Scanner Speaker Desktop/Laptop Tower case PC/Mainframe Portable On-line/Access Cursor/Arrow Mouse Pointer Insertion Point Shift key Backspace key Escape key Keypad Click/Double click Drag/Drop	Computers Peripherals: (e.g. keyboard, mouse) Posters Worksheets Models America On-line (Career Center) Software: (e.g. Ultra Key)	Librarian	Librarian/ teacher observation

[illegible]
Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** FOUR **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.2	#3,5	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work including error messages and troubleshooting; loading paper.	I D	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers. A cursor is the flashing line on your monitor. A mouse uses an arrow or pointer. On-line computer systems let people anywhere talk to each other. Acquaint student with network server log-on for library database: On-line, Public Access Catalog (OPAC). Networks require passwords for use; printers can be shared.	Computer/CPU Drives (disk) CD ROM Keyboard/Mouse Monitor Printer Cables/power cord Microphones Mouse Button/Pad Modem Scanner Speaker Desktop/Laptop Tower case PC Mainframe Portable On-line/Access Cursor Arrow/Pointer Server Network OPAC Password Local/Line printer	Computers Peripherals Posters Worksheets Models America On-line (Career Center) Software: (e.g. **Ultra Key**) CLS OPAC	Librarian	Librarian observation

File: hi \ RR 4R2
Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** FOUR **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 3	#5	Students will be able to describe computer systems, how they are used in various occupations and how computers help people work.	D R	Hardware is all the physical components of a computer, including any accessories used with/attached to a computer. Computers come in a variety of shapes and sizes. There are different types of computers. A cursor is the flashing line on your monitor. A mouse uses an arrow or pointer. On-line computer systems let people anywhere talk to each other. Acquaint student with network server log-on for library database: On-line, Public Access Catalog (OPAC), spell-check, thesaurus, database, on-line retrieval.	Computer/CPU Drives (disk) CD ROM Keyboard/Mouse Mouse Button/Pad Monitor Printer Cables/power cord Microphones Modem Scanner Speaker Desktop/Laptop Tower case PC/Mainframe Portable On-line Access Cursor Arrow/Pointer Server Network OPAC Applications Retrieval Thesaurus Spell-check Log-in	Computers Peripherals Posters Worksheets Models America On-line (Career Center) Software: (e.g. Ultra Key) On-line Public Access Catalog (OPAC), Columbia Library Systems (CLS) Computer/Software programs NJ LINK	Librarian/Teacher	Librarian/Teacher observation

TR: 10/1/88 SBS

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** FOUR **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 4	#5	Students will be able to identify and use peripherals as appropriate.	D	Any piece of hardware attached to the outside of a computer is called a peripheral. Using a computer and software, a scanner translates or "copies" what it "sees" & creates a file. FAX machine copies what it sees on to paper. Modems are required for E-mail & other communications packages. FAX machine requires a telephone line connection. Music synthesizer simulates instrument's sounds.	Scanner CD ROM Projection device Modem FAX E-mail Laser discs Synthesizer Simulate	FAX Scanner CD-ROM Modem Projection device E-mail Laser discs Computer synthesizer	Librarian	Librarian observation

TR: 10/1 RR 484

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

83

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** FOUR **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.5	#5,6,7	Students will be able to demonstrate proper use of TV technology.	I	Instruct students in use of camera, editing, producing videos and broadcasting their own programs.	Camera Video program Broadcast Editing "Shooting"	Equipment in TV Studio	Librarian	Librarian/teacher observation

PRINTED ON

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 3-4 **Grade Level:** FOUR **Cooperating Department:** GRADE LEVEL

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 6	#5,6,7	Students will become acquainted with the processes of identifying and integrating applications and link technologies.	A I D	Computers and linked technologies offer ways of facilitating group and individual projects and activities.	Information retrieval Link technologies Applications	Computer Software Peripherals	Librarian	Librarian/teacher observation

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.1.a,b,c	#2, 7	Student will be able to identify and name the parts of a computer and its related peripherals and explain the purpose of each.	R	Demonstrate how a computer is constructed, name its parts, and explain the role of peripherals.	CPU CPU Case Drives (disk) Peripherals Modem Scanner CD-ROM Drive	Computers Keyboard Disk Drive Monitor Printer Mouse Modem Scanner CD-ROM Drive Microphone Programs	Librarian	Librarian designed test

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2,a	#1, 2, 3	Student will be able to identify and describe the computer's major components.	I	Demonstrate how to open a computer and find its major components.	CPU RAM Motherboard/logic board Chip Memory Chip Circuitry Hertz Kilohertz Megahertz Power Supply Hard Drive Read-only Read/write Nano Second Toggle Switch Ports (serial, SCSI) Bit Byte	CPU Illustrations Diagram	Librarian	Librarian designed worksheet diagram

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** Math

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2,b	#2, 8	Student will be able to explain the basic operating procedures for computers and what happens to data.	I	Explain the concept of data and how it is manipulated.	Input Processing Output Select Deselect Desktop Files Folders Finder Menu Directory Root directory/ disk window Document Icons Tutorial	Diagrams Posters Computer Projection Device Screen Software	Librarian	Librarian designed worksheet

TECHCURR.SAS

93

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2,c	#1, 5, 8	Student will be able to describe how the computer does work and performs as a machine.	D	Explain the tasks that computers can accomplish and how they can be used by students to perform work.	Application Keyboarding Word processing Database Graphics Communications packages	Computer Greatworks software	Librarian Cycle teacher	Worksheets Student demonstration

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.3	#1, 5, 7, 8, 9	Student will be able to recognize all the components of a computer system and describe the potential for expanded use to facilitate communication and information gathering.	R	Review (and up-date as needed) the components of a computer system and the benefits of networking.	Documentation Communications Network File server LAN WAN Remote Protocol Handshake Network administrator	Computer station File server Network software Diagrams	Librarian	Librarian designed test. Student ability to log on to network and negotiate access to E-mail and databases.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.4	#1, 8	Student will be able to describe uses of computers outside of school and possible consequences of system failures.	R	Review common uses of computers in other settings and ways in which these computers could fail to operate.	System failure Brown-out Operator error Power surge	Teacher station Projection device Slides	Librarian	Observation of student discussion.

[illegible]

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.5	#5, 9, 10	Student will be able to identify computer-related occupations and skills required for future employment.	R	Discuss occupations that require computer skills.	As related to specific occupations.	Magazine articles On-line information	Librarian	Observation of discussion.

TECHCURR.SAS

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.6	#1, 9, 10	Student will be able to read computer-related books and magazines.	R	Introduce students to appropriate books and magazines.	As required by reading materials.	Books Magazines	Librarian	Observation of students.

103

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.7	#3,7	Students will be able to utilize manuals.	A	Demonstrate use of manual to find codes, passwords, or helpful information.	As appropriate from manual.	Computer Peripherals Software	Librarian	Observation of students.

TECHNOLOGY

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.8	#2	Students will be able to identify limits for computer use.	A	Discuss considerations when buying and using equipment and software.	Footprint Memory Storage	Catalogues Diagrams	Librarian	Observation of student discussion.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 9	#2, 4	Students will be able to recognize that computers have changed in size and power over time.	A	Explain the history of computers in terms of their size and processing capacity.	Generation Up-grade Operating system Main frame Mini-computer Microcomputer	Pictures Diagrams	Librarian	Worksheet, quiz.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.11	#1, 8	Students will be able to recognize that moral issues impact on computer use.	I	Discuss the need for security and responsible use of data obtained electronically.	Down-load Password Freeware Shareware Piracy Virus Hacker	Diagrams Displays on teacher station.	Lab aide teacher	Observation of student discussion and use of equipment.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 12	#10	Students will be able to develop strategies to use equipment independently.	R	Demonstrate techniques for learning to use new equipment and software such as collaborative exploration, reading the manual, using help balloons, calling tech support, etc.	Collaborative tech support	New software Unfamiliar equipment	Librarian Lab aide	Observation of students, student self-assessment in journals or lab reports.

113

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 1a,b,c,d	#5	Students will be able to keyboard efficiently (i.e. touch type at a rate faster than he/she can write.)	I D R	See keyboarding curriculum	Home keys Keyboarding rate Speed Accuracy WPM	PAWS program Computer lab Teacher manual	Teacher assigned	Rate and accuracy tests

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 2a	#2,3	Students will be able to take proper care of hardware and software and troubleshoot problems.	R	Review methods of cleaning and using equipment and how to ask questions in a logical sequence when equipment fails.	Freeze Locked Write-protected Back-up Bug Debug Crash Documentation High density Double density	Computers Peripherals Software	Librarian/Lab Aide	Observation of students using equipment and troubleshooting.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 2 b,c,d,e	#3,5	Students will be able to access the programs and equipment they need, print their work, and resolve machine conflicts independently.	R	Review basic utility skills such as loading software, cleaning equipment, and loading the printer.	dpi Dot matrix Inkjet Lazer Print buffer Print spooler	Computers Peripherals Software	Librarian/Lab Aide	Observation of students.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.a	#5, 7	Students will be able to use a drill and practice program to learn and reinforce basic skills when needed.	R	Review instructions as required by program.	As appropriate to program application.	Computers and required peripherals Software (e.g. Math Blaster, Super Munchers)	Teacher	Observation of students; print-out of scores.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.b	#6	Students will be able to use a simulation program to learn about and create alternative scenarios.	R	Review instructions as required by program.	Button Dashboard Map window Control panel Edit window Census window Others as appropriate to program application.	Computers and required peripherals Software (e.g. Oregon Trail, SimAnt)	Teacher	Observation of students; print-out of student work.

123

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.c	#5,7,10	Students will be able to use a problem-solving program.	R	Review instructions as required by program.	As appropriate to program application.	Computers and required peripherals Software (e.g. Midnight Rescue; Decisions, Decisions)	Teacher	Observation of students; print-out of scores.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** LANGUAGE ARTS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.d	#5	Students will be able to use a word processing program with spell-check and thesaurus.	R I A	Review instructions as required by program.	Curly quotes Curly apostrophes Thesaurus	Computers and peripherals Software (e.g.Greatworks)	Teacher	Review of student documents.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.e	#5	Students will be able to read and understand information presented in a database.	A	Describe the format of a database and how it is used.	Record Field Row Column Chart Bar chart Pie chart	Teacher station Sample databases	Librarian	Observation and worksheets.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Stranda	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.g	#5	Students will be able to use a paint/draw program.	R	Review instructions as required by program.	Palette Draw ruler Test ruler Specifications window Zoom box Attributes Patterns Marquee tool Lasso tool Wand tool	Computers Software (e.g. Greatworks)	Teacher	Review of student documents.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.h	#3	Students will be able to recognize a utility program.	A	Explain the concept of a utility program using a screen saver as an example.	Utility program	Computers Software (e.g. After Dark)	Librarian Lab Aide	Observation of students.

Technology

133

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.i	#5	Students will be able to use a graphics program.	R	Review instructions as required by program.	Control panel Format PICT TIFF Grayscale Clip art	Computers Peripherals Software (e.g. Greatworks)	Teacher	Review of student print-outs.

Technology

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.j	#4,5,7	Students will be able to use HyperCard to create their own programs.	A I	Review the procedures and vocabulary for HyperCard. Explain how a non-linear database can be created using cards, stacks, linking, and button. Have students create one of at least 3 cards.	Multi-media Sequence Linking Stack Card Background Button Field Browse tool	Computer with HyperCard	Teacher	Observe students presenting their completed stack to the class.

TECHNOLOGY

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.k	#5	Students will be able to use an on-line service, accessing information, and logging off.	R	Review the procedures for logging onto the service, accessing information, and logging off.	On-line Off-line Log-on Log-off Download Upload Bulletin Boards	Computer with modem and access to America On-line or another on-line service.	Librarian	Observation of student use.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 4 a b c d e f	#5,7	Students will be able to operate a scanner, CD-ROM, laser disc player, projection device, modem and FAX machine.	R	Review with students as necessary the correct procedures for operating peripherals.	As required for review.	Scanner CD-ROM's and drive Laser disc player Projection device Modem Computer Printer FAX machine Telephone	Teacher	Observation of student use.

147

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** MUSIC

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 4 g	#7	Students will be able to recognize the capabilities of a music synthesizer.	A	Demonstrate how a computer can be used to compose and play music.	MIDI interface Synthesizer	Computer with MIDI interface and appropriate instruments.	Teacher	Observation of student discussion.

143

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.5a,b,c,d	#7	Students will be able to create a video program.	I	Demonstrate the process required to create a video program from scripting to recording and editing -- including interviewing techniques, on-camera poise, basic writing, basic camera shots, and producing a magazine show.	Review terms including: Camcorder Video in Video out Shouldering Headshot Storyboard Camera control unit Switcher Magnetic audio mixer Monitors Shooting script Editing Tape Medium shot Long shot Close-up Sound track Cable Broadcast Mass media	Video camera VCR Editing machine Lighting grid Stage flats Control room Computer/graphic	Librarian	Student observation

Technology

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** FIVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.6.a,b,c,d	#3,4,5,7,10	Students will be able to identify and use appropriate technologies for performing tasks in an independent and competent manner.	I R	Provide access to all software and equipment available and act as coach as students determine what to use and execute independent projects.	Review as required.	Technology Resource Room and related equipment	Teacher	Observation of student demonstrating final project.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.1.a,b,c	#2,7	Students will be able to identify, name, and describe the functions of the computer and its peripherals.	R	Review the parts of the computer and related peripherals. Demonstrate the use of any new equipment.	CPU CPU case Disk drives Peripherals Modem Scanner CD ROM drive LED lights SCSI connection	Computer Scanner Modem CD-ROM drive Programs	Librarian Lab Aide	Librarian designed test.

TECHCURR5A1

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2.a	#1, 2, 3	Students will be able to identify and describe the computer's major components.	I D	Demonstrate how to open a computer and find its major components.	CPU RAM Motherboard/logic Board Chip Memory Chip Circuitry Hertz Kilohertz Megahertz Power Supply Hard Drive Read-only Read/write Nano Second Toggle Switch Ports (serial, SCSI) Radio buttons Checkboxes	CPU Illustrations Diagram	Librarian	Librarian designed worksheet diagram

TECHCURR 6A3

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2,b	#2, 8	Students will be able to explain the basic operating procedures for computers and what happens to data.	I D	Review the concept of data and how it is manipulated; introduce basic file management.	Input Processing Output Select Deselect Desktop Files Folders Finder Menu Directory Root directory/ disk window Document Icons Tutorial	Diagrams Posters Computer Projection Device Screen Software	Librarian	Librarian designed worksheet; observation of students in lab.

TECHNOLOGY

Key A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

153

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 2,c	#1, 5, 8	Students will be able to describe how the computer does work and performs as a machine.	R	Review tasks performed by computers; up date as necessary.	Application Keyboarding Word processing Database Graphics Communications Packages	Computer Greatworks software	Librarian Cycle teacher	Worksheets Student demonstration

TECHNOLOGY

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.3	#1, 5, 7, 8, 9	Students will be able to recognize all the components of a computer system and describe the potential for expanded use to facilitate communication and information gathering.	R	Review (and up-date as needed) the components of a computer system and the benefits of networking.	Documentation Communications Network File Server LAN WAN Remote Protocol Handshake Network administrator Baud rate	Computer Station File server Network software Diagrams	Librarian	Librarian designed test. Student ability to log on to network and negotiate access to E-mail and databases.

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.4	#1, 8	Students will be able to describe uses of computers outside of school and possible consequences of system failures.	R	Review common uses of computers in other settings and ways in which these computers could fail to operate.	System failure brown-out Operator error Power surge	Teacher Station Projection device Slides	Librarian	Observation of students discussion.

DISTRICT/RR.6A4

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.5	#5, 9, 10	Students will be able to identify computer-related occupations and skills required for future employment.	R	Discuss occupations that require computer skills.	As related to specific occupations.	Magazine articles On-line information	Librarian	Observation of discussion.

DISTRICT/RR 8A5

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 6	#1, 9, 10	Students will be able to read computer-related books and magazines.	R	Introduce students to appropriate books and magazines.	As required by reading materials.	Books Magazines	Librarian	Observation of students.

TECH1/88 6A6

Key A Acquaint I Instruct D Develop in Depth R Reinforce

163

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.7	#3, 7	Students will be able to utilize manuals.	I D	Assign specific tasks that require use of manuals for software and hardware.	As appropriate from manual.	Computer Peripherals Software	Librarian	Observation of students.

TECHCURR6A7

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.8	#2	Students will be able to identify limits for computer use.	A	Discuss considerations when buying and using equipment and software.	Footprint Memory Storage	Catalogues Diagrams	Librarian	Observation of student discussion.

TECHCURR.AAB

See A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.9	#2, 4	Students will be able to recognize that computers have changed in size and power over time.	A	Explain the history of computers in terms of their size and processing capacity.	Generation Up-grade Operating system Main frame Mini-computer Microcomputer	Pictures Diagrams	Librarian	Worksheet, quiz.

TECH CURR 849

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.11	#1, 8	Students will be able to recognize that moral issues impact on computer use.	I	Discuss the need for security and responsible use of data obtained electronically.	Down-load Password Freeware Shareware Piracy Virus Hacker Public domain Trojan horse	Diagrams Displays on teacher station.	Librarian Teachers	Observation of student discussion and use of equipment.

Title IX (1984 ed.)

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 12	#10	Students will be able to develop strategies to use equipment independently.	R	Demonstrate techniques for learning to use new equipment and software such as collaborative exploration, reading the manual, using help balloons, calling tech support, etc.	Collaborative Tech support Help screen/ help balloon	New software Unfamiliar equipment	Librarian Lab aide	Observation of students, student self-assesment in journals or lab reports.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

173

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2,a	#1, 2, 3	Students will be able to identify and describe the computer's major components.	I D	Demonstrate how to open a computer and find its major components.	CPU RAM Motherboard/logic Board Chip Memory Chip Circuitry Hertz Kilohertz Megahertz Power Supply Hard Drive Read-only Read/write Nano Second Toggle Switch Ports (serial, SCSI) Radio buttons Checkboxes	CPU Illustrations Diagram	Librarian	Librarian designed worksheet diagram

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2,b	#2, 8	Students will be able to explain the basic operating procedures for computers and what happens to data.	I D	Review the concept of data and how it is manipulated; introduce basic file management.	Input Processing Output Select Deselect Desktop Files Folders Finder Menu Directory Root directory/ disk window Document Icons Tutorial	Diagrams Posters Computer Projection Device Screen Software	Librarian	Librarian designed worksheet; observation of students in lab.

[illegible]

[illegible] A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 2,c	#1, 5, 8	Students will be able to describe how the computer does work and performs as a machine.	R	Review tasks performed by computers; up date as necessary.	Application Keyboarding Word processing Database Graphics Communications Packages	Computer Greatworks software	Librarian Cycle teacher	Worksheets Student demonstration

TECH1TRR.6Ac

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.3	#1, 5, 7, 8, 9	Students will be able to recognize all the components of a computer system and describe the potential for expanded use to facilitate communication and information gathering.	R	Review (and up-date as needed) the components of a computer system and the benefits of networking.	Documentation Communications Network File Server LAN WAN Remote Protocol Handshake Network administrator Baud rate	Computer Station File server Network software Diagrams	Librarian	Librarian designed test. Student ability to log on to network and negotiate access to E-mail and databases.

IR\LRR.6A3

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 4	#1, 8	Students will be able to describe uses of computers outside of school and possible consequences of system failures.	R	Review common uses of computers in other settings and ways in which these computers could fail to operate.	System failure brown-out Operator error Power surge	Teacher Station Projection device Slides	Librarian	Observation of students discussion.

[illegible]

[illegible]

183

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 Grade Level: SIX Cooperating Department: ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.5	#5, 9, 10	Students will be able to identify computer related occupations and skills required for future employment.	R	Discuss occupations that require computer skills.	As related to specific occupations.	Magazine articles On-line information	Librarian	Observation of discussion.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.6	#1, 9, 10	Students will be able to read computer-related books and magazines.	R	Introduce students to appropriate books and magazines.	As required by reading materials.	Books Magazines	Librarian	Observation of students.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.7	#3, 7	Students will be able to utilize manuals.	I D	Assign specific tasks that require use of manuals for software and hardware.	As appropriate from manual.	Computer Peripherals Software	Librarian	Observation of students.

TECH:1RR6A7

Key: A Acquaint I Instruct D Develop to Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.8	#2	Students will be able to identify limits for computer use.	A	Discuss considerations when buying and using equipment and software.	Footprint Memory Storage	Catalogues Diagrams	Librarian	Observation of student discussion.

TECHNOLOGY

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.9	#2, 4	Students will be able to recognize that computers have changed in size and power over time.	A	Explain the history of computers in terms of their size and processing capacity.	Generation Up-grade Operating system Main frame Mini-computer Microcomputer	Pictures Diagrams	Librarian	Worksheet, quiz.

TECH 1988 649

Key A Acquaint I Instruct D Develop in Depth R Reinforce

193

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.11	#1, 8	Students will be able to recognize that moral issues impact on computer use.	I	Discuss the need for security and responsible use of data obtained electronically.	Down-load Password Freeware Shareware Piracy Virus Hacker Public domain Trojan horse	Diagrams Displays on teacher station.	Librarian Teachers	Observation of student discussion and use of equipment.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.12	#10	Students will be able to develop strategies to use equipment independently.	R	Demonstrate techniques for learning to use new equipment and software such as collaborative exploration, reading the manual, using help balloons, calling tech support, etc.	Collaborative Tech support Help screen/ help balloon	New software Unfamiliar equipment	Librarian Lab aide	Observation of students, student self-assesment in journals or lab reports.

Technology 6-8

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.1a,b,c,d	#5	Students will be able to keyboard efficiently (i.e. touch type at a rate faster than he/she can write.)	R	Review finger positions.	Home keys Keyboarding rate Speed Accuracy WPM	Greatworks	Teacher	Observation of students at keyboard.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.2a	#2,3	Students will be able to take proper care of hardware and software and troubleshoot problems.	R	Review methods of cleaning and using equipment and how to ask questions in a logical sequence when equipment fails.	Freeze Locked Write-protected Back-up Bug Debug Crash Documentation High density Double density	Computers Peripherals Software	Librarian/Lab Aide	Observation of students using equipment and troubleshooting.

[illegible]

[illegible] A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 2 b,c,d,e	#3,5	Students will be able to access the programs and equipment they need, print their work, and resolve machine conflicts independently.	R	Review basic utility skills such as loading software, cleaning equipment, and loading the printer.	dpi Dot matrix Inkjet Laser Print buffer Print spooler Default	Computers Peripherals Software	Librarian/Lab Aide	Observation of students.

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

203

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.a	#5,7	Students will be able to use a drill and practice program to learn and reinforce basic skills when needed.	R	Review instructions as required by program	As appropriate to program application.	Computers and required peripherals Software (e.g. Math Blaster, Super Munchers, U.S. Geography Adventure)	Teacher	Observation of students; print-out of scores.

SCTEC1/RR 6/89

A: Acquaint I: Instruct D: Develop in Depth R: Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.b	#6	Students will be able to use a simulation program to learn about and create alternative scenarios.	R	Review instructions as required by program	Button Dashboard Map window Control panel Edit window Census window Others as appropriate to program application.	Computers and required peripherals Software (e.g. Oregon Trail, SimAnt, Wagon Train 1848)	Teacher	Observation of students; print-out of student work.

[illegible]

A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Stranda	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assesament
B.3.c	#5,7,10	Studenta will be able to use a problem-solving program.	R	Review instructions as required by program	As appropriate to program application.	Computers and required peripherals Software (e.g. Midnight Rescue; Decisions, Decisions, Neighborhood Map Skills)	Teacher	Observation of students; print-out of scores.

Instructional Key:

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.d	#5	Students will be able to use a word processing program with spell-check and thesaurus.	R D I	Review instructions as required for program	Formatting Document Copy Paste Scrapbook Clipboard Header Footer I-tool Word-wrap WYSIWYG	Computers and peripherals Software (e.g Greatworks)	Teacher	Review of student documents. Teacher-made test.

TRANSFER GRID

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.e	#5	Students will be able to read and understand information presented in a database.	A	Create examples of data-bases to illustrate related lessons.	Records Field Row Column Chart Bar chart Pie chart	Teacher station Sample databases	Librarian	Observation and worksheets.

[illegible]

[illegible]

213

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.g	#5	Students will be able to use a paint/draw program.	R	Review instructions as required by program.	Palette Draw ruler Text ruler Specifications window Zoom box Attributes Patterns Marquee tool Lasso tool Wand tool	Computers Software (e.g. Greatworks)	Teacher	Review of student documents.

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

221

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.h	#3	Students will be able to recognize a utility program.	A	Review the concept of a utility program using a security program as an example.	Locking out Password Security	Computers Software (e.g. At Ease)	Librarian Lab Aide	Observation of students.

SCHCURR.6NH

ey: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.i	#5	Students will be able to use a graphics program.	R	Review instructions as required by program.	Control panel Format PICT TIFF Grayscale Clip art	Computers Peripherals Software (e.g. Greatworks)	Teacher	Review of student print-outs.

TECHCURR.4M1

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.j	#4,5,7	Students will be able to use hypermedia with sound.	D	Review procedures for creating stacks. Explain how to create a slide-show.	Multi-media Sequence Linking Stack Card Background Button Field Browse tool Electronic slideshow Loop Fade-out	Computer with HyperCard, KidPix Companion	Teacher	Observe students presenting their slideshow to the class.

TECHCURR.6RJ

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3 k	#5	Students will be able to use an on-line service, accessing information, and logging off.	R	Review the procedures for logging onto the service, accessing information, and logging off.	On-line Off-line Log-on Log-off Download Upload Bulletin Boards	Computers with modem and access to America On-line or another on-line service.	Librarian	Observation of student use.

TECHCURR.65k

Key A Acquaint I Instruct D Develop in Depth R Reinforce

223

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 4 a.b.c.d.e.f	#5,7	Students will be able to operate a scanner, CD-ROM, laser disc player, projection device, modem and FAX machine.	R	Review with students as necessary the correct procedures for operating peripherals.	As required for review.	Scanner CD-ROM's and drive Laser disc player Projection device Modem Computer Printer FAX machine Telephone	Teacher	Observation of student use.

BCMCTSR.694

key A Acquaint I Instruct D Develop in Depth R Reinforce

231

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** MUSIC

Stranda	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.4.g	#7	Students will be able to recognize the capabilities of a music synthesizer.	A	Demonstrate how a computer can be used to compose and play music.	MIDI interface Synthesizer	Computer with MIDI interface and appropriate instruments.	Teacher	Observation of student discussion.

[illegible]CURR.640

[illegible]equaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 5a,b,c,d	#7	Students will be able to create a video program.	I	Students will be able to create a video program from scripting to recording and editing -- including interviewing techniques, on-camera poise, basic writing, basic camera shots, and producing a magazine show.	Review terms including: Camcorder Video in Video out Shouldering Headshot Storyboard Camera control unit Switcher Magnetic audio mixer Monitors Shooting script Editing Tape Medium shot Long shot Sound track Cable Broadcast Mass media	Video camera VCR Editing machine Lighting grid Stage flats Control room Computer/graphics	Librarian	Student observation

TECHCURR.SRV

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SIX **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 6 a,b,c,d	#3,4,5,7,10	Students will be able to identify and use appropriate technologies for performing tasks in an independent and competent manner.	I R	Provide access to all software and equipment available and act as coach as students determine what to use and execute independent projects.	Review as required.	Technology Resource Room and related equipment	Teacher	Observation of students demonstrating final project.

TECHCURR.002

Key A Acquaint I Instruct D Develop In Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.1 a,b,c	#2,7	Students will be able to identify, name, and describe the functions of the computer and its peripherals.	R	Review the parts of the computer and related peripherals. Demonstrate the use of any new equipment.	CPU CPU case Disk drives Peripherals Modem Scanner CD ROM drive LED lights SCSI connection Pixel Motherboard Power Supply	Computer Scanner Modem CD-ROM drive Programs	Librarian Lab Aide	Librarian designed test.

TECTC1RR 7A1

Key A Acquaint I Instruct D Develop in Depth R Reinforce

233

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 2,a	#1, 2, 3	Students will be able to identify and describe the computer's major componenta.	D	Demonstrate how to open a computer and find its major componenta.	CPU RAM Motherboard/logic Board Chip Memory Chip Circuitry Hertz Kilohertz Megahertz Power Supply Hard Drive Read-only Read/write Nano Second Toggle Switch Ports (serial, SCSI) Radio buttons Checkboxes	CPU Illustrations Diagram	Librarian	Librarian designed worksheet diagram

[illegible]

[illegible] A Acquaint I Instruct D Develop in Depth R Reinforce

241

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 2,b	#2, 8	Students will be able to explain the basic operating procedures for computers and what happens to data.	D	Review the concept of data and how it is manipulated; review file management and explain how to create directories.	Input Processing Output Select Deselect Desktop Files Folders Finder Menu Directory Root directory/ disk window Document Icons Tutorial	Diagrams Posters Computer Projection Device Screen Software	Librarian	Librarian designed worksheet; observation of students in lab.

CRITERION REFERENCE TASK

KEY A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 2,c	#1, 5, 8	Students will be able to describe how the computer does work and performs as a machine.	R	Review tasks performed by computers; up-date as necessary.	Application Keyboarding Word processing Database Graphics Communications Packages	Computer Grestworks software	Librarian Cycle teacher	Worksheets Student demonstration

Te [illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.3	#1, 5, 7, 8, 9	Students will be able to recognize all the components of a computer system and describe the potential for expanded use to facilitate communication and information gathering.	R	Review (and up-date as needed) the components of a computer system and the benefits of networking.	Documentation Communications Network File Server LAN WAN Remote Protocol Handshake Network administrator Baud rate	Computer Station File server Network software Diagrams	Librarian	Librarian designed test. Student ability to log on to network and negotiate access to E-mail and databases.

TECH OBJ 1A3

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 4	#1, 8	Students will be able to describe uses of computers outside of school and possible consequences of system failures.	R	Review common uses of computers in other settings and ways in which these computers could fail to operate.	System failure brown-out Operator error Power surge	Teacher Station Projection device Slides	Librarian	Observation of students discussion.

TECHNOLOGY 7A4

Key A Acquaint I Instruct D Develop in Depth R Reinforce

243

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.5	#5, 9, 10	Students will be able to identify computer-related occupations and skills required for future employment.	R	Discuss occupations that require computer skills.	As related to specific occupations.	Magazine articles On-line information	Librarian	Observation of discussion.

[illegible] 7A5

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 6	#1, 9, 10	Students will be able to read computer-related books and magazines.	R	Introduce students to appropriate books and magazines.	As required by reading materials.	Books Magazines	Librarian	Observation of students.

TECH1RR.TAB

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.7	#3, 7	Students will be able to utilize manuals.	R	Review how to use manuals for finding help.	As appropriate from manual.	Computer Peripherals Software	Librarian	Observation of students.

TECHNOLOGY

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.8	#2	Students will be able to identify limits for computer use.	A I	Discuss considerations when buying and using equipment and software.	Footprint Memory Storage	Catalogues Diagrams	Librarian	Observation of student discussion.

TECHNOLOGY 7AB

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.9	#2, 4	Students will be able to recognize that computers have changed in size and power over time.	A	Explain the history of computers in terms of their size and processing capacity.	Generation Up-grade Operating system Main frame Mini-computer Microcomputer	Pictures Diagrams	Librarian	Worksheet, quiz.

TECHNOLOGY

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

253

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.11	#1, 8	Students will be able to recognize that moral issues impact on computer use.	I	Discuss the need for security and responsible use of data obtained electronically.	Down-load Password Freeware Shareware Piracy Virus Hacker Public domain Trojan horse Names of current viruses	Diagrams Displays on teacher station.	Librarian Teachers	Observation of student discussion and use of equipment.

TECHSTRUCT 7.1

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.12	#10	Students will be able to develop strategies to use equipment independently.	R	Demonstrate techniques for learning to use new equipment and software such as collaborative exploration, reading the manual, using help balloons, calling tech support, etc.	Collaborative Tech support Help screen/ help balloon	New software Unfamiliar equipment	Librarian Lab aide	Observation of students, student self-assesment in journals or lab reports.

TECHFUTURE 7.2

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.1a,b,c,d	#5	Students will be able to keyboard efficiently (i.e. touch type at a rate faster than he/she can write.)	R	Review finger positions.	Home keys Keyboarding rate Speed Accuracy WPM	Greatworks	Teacher	Observation of students at keyboard.

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.2a	#2,3	Students will be able to take proper care of hardware and software and troubleshoot problems.	R	Review methods of cleaning and using equipment and how to ask questions in a logical sequence when equipment fails.	Freeze Locked Write-protected Back-up Bug Debug Crash Documentation High density Double density	Computers Peripherals Software	Librarian/Lab Aide	Observation of students using equipment and troubleshooting.

[illegible] 782

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Stranda	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.2.b,c,d,e	#3,5	Students will be able to access the programs and equipment they need, print their work, and resolve machine conflicts independently.	R	Review basic utility skills such as loading software, cleaning equipment, and loading the printer.	dpi Dot matrix Inkjet Laser Print buffer Print spooler Default Baud rate	Computers Peripherals Software	Librarian/Lab Aide	Observation of students.

SECTION I/RR 7/89

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

263

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.a	#5,7	Students will be able to use a drill and practice program to learn and reinforce basic skills when needed.	R	Review instructions as required by program	As appropriate to program application.	Computers and required peripherals Software (e.g. Math Blaster, Super Munchers, U.S. Geography Adventure, Math Blaster Mystery)	Teacher	Observation of students; print-out of scores.

[illegible]

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

271

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
8.3 b	#6	Students will be able to use a simulation program to learn about and create alternative scenarios.	R	Review instructions as required by program	Button Dashboard Map window Control panel Edit window Census window Others as appropriate to program application.	Computers and required peripherals Software (e.g. Oregon Trail, SimAnt, Wagon Train 1848, SimEarth)	Teacher	Observation of students; print-out of student work.

BR 10/1/88.19

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.c	#5,7,10	Students will be able to use a problem-solving program.	R	Review instructions as required by program	As appropriate to program application.	Computers and required peripherals Software (e.g. Midnight Rescue; Decisions, Decisions, Neighborhood Map Skills, Ace Detective)	Teacher	Observation of students; print-out of scores.

[illegible]

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.d	#5	Students will be able to use a word processing program with spell-check and thesaurus.	R	Review instructions as required by program	Landscape Portrait Orphan/widow	Computers and peripherals Software (e.g. Greatworks)	Teacher	Review of student documents. Teacher-made test.

TW:TC:TRR:TRD

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.e	#5	Students will be able to generate their own database.	I D	Have students use science data to formulate the basis of a database.	Records Field Row Column Chart Bar chart Pie chart Relational database	Greatworks program; science text	Teacher	Student-designed data-base.

TECHNOLOGY

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

273

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** SCIENCE, MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.f	#5	Students will be able to read and understand information presented in a spreadsheet.	A	Illustrate how attaching values to items in a data-base makes it a spreadsheet.	Cells Formula Keypad (numerical)	Teacher station Sample data-base and spreadsheet.	Teacher	Observation and worksheets.

TECH/CURR.INF

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.g	#5	Students will be able to use a paint/draw program.	R	Review instructions as required by program.	Palette Draw ruler Text ruler Specifications window Zoom box Attributes Patterns Marquee tool Lasso tool Wand tool	Computers Software (e.g. Greatworks)	Teacher	Review of student documents.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.h	#3	Students will be able to recognize a utility program.	A	Review the concept of a utility program using a file exchange program as an example.	Formatting MS-DOS Initialize	Computers Software (e.g. Access PC)	Librarian Lab Aide	Observation of students.

TRI 10:1 RR 1991

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.c	05	Students will be able to use a graphics program.	R	Review instructions as required by program.	Control panel Format PICT TIFF Grayscale Clip art	Computers Peripherals Software (e.g. Greatworks)	Teacher	Review of student print-outs.

TR 10/1/93 (5)

Key: A - Acquaint I - Instruct D - Develop to Depth R - Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.j	#4,5,7	Students will be able to use multi-media.	D	Review procedures for creating a slide-show. Explain how to use multi-media.	Multi-media Sequence Linking Stack Card Background Button Field Browse tool Electronic slideshow Loop Fade-out QuickTime ...	Computers and peripherals with HyperCard, KidPix Companion, HyperStudio	Teacher	Observe students presenting completed programs to the class.

TECHNOLOGY

Key A Acquaint I Instruct D Develop in Depth R Reinforce

283

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.k	#5	Students will be able to use an on-line service, accessing information, and logging off.	R	Review the procedures for logging onto the service, accessing information, and logging off.	On-line Off-line Log-on Log-off Download Upload Bulletin Boards	Computers with modem and access to America On-line or another on-line service.	Librarian	Observation of student use.

TECH/1/93.19b

Key: A Acquaint I Instruct D Develop In Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Stranda	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.4.a.b.c.d.e.f	#5,7	Students will be able to operate a scanner, CD-ROM, laser disc player, projection device, modem and FAX machine.	R	Review with students as necessary the correct procedures for operating peripherals.	As required for review.	Scanner CD-ROM's and drive Laser disc player Projection device Modem Computer Printer FAX machine Telephone	Teacher	Observation of student use.

TECHNOLOGY 7/94

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** MUSIC

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.4.g	#7	Students will be able to recognize the capabilities of a music synthesizer.	A	Demonstrate how a computer can be used to compose and play music.	MIDI interface Synthesizer	Computer with MIDI interface and appropriate instruments.	Teacher	Observation of student discussion.

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 5a,b,c,d	#7	Students will be able to create a video program.	I	Students will be able to create a video program from scripting to recording and editing -- including interviewing techniques, on-camera poise, basic writing, basic camera shots, and producing a magazine show.	Review terms including: Camcorder Video in Video out Shouldering Headshot Storyboard Camera control unit Switcher Magnetic audio mixer Monitors Shooting script Editing Tape Medium shot Long shot Sound track Cable Broadcast Mass media	Video camera VCR Editing machine Lighting grid Stage flats Control room Computer/graphics	Librarian	Student observation

[illegible]

Key A Acquaint I Instruct D Develop in Depth R Reinforce

BEST COPY AVAILABLE

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** SEVEN **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 6 a,b,c,d	#3,4,5,7,10	Students will be able to identify and use appropriate technologies for performing tasks in an independent and competent manner.	D R	Provide access to all software and equipment available and act as coach as students determine what to use and execute independent projects.	Review as required.	Technology Resource Room and related equipment	Teacher	Observation of students demonstrating final project.

TECHCURR.TBL

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

293

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.1 a,b,c	#2,7	Students will be able to identify, name, and describe the functions of the computer and its peripherals.	R	Review the parts of the computer and related peripherals. Demonstrate the use of any new equipment.	CPU CPU case Disk drives Peripherals Modem Scanner CD ROM drive LED lights SCSI connection Pixel Motherboard Power Supply Megabytes Megahertz	Computer Scanner Modem CD-ROM drive Programs	Librarian Lab Aide	Librarian designed test.

TECHNOLOGY

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 2,a	#1, 2, 3	Students will be able to identify and describe the computer's major components.	D	Demonstrate how to open a computer and find its major components.	CPU RAM Motherboard/logic Board Chip Memory Chip Circuitry Hertz Kilohertz Megahertz Power Supply Hard Drive Read-only Read/write Nano Second Toggle Switch Ports (serial, SCSI) Radio buttons Checkboxes	CPU Illustrations Diagram	Librarian	Librarian designed worksheet diagram

TECHCURR.843

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2,b	#2, 8	Students will be able to explain the basic operating procedures for computers and what happens to data.	D	Review the concept of data and how it is manipulated; review file management and directories.	Input Processing Output Select Deselect Desktop Files Folders Finder Menu Directory Root directory/ disk window Document Icons Tutorial	Diagrams Posters Computer Projection Device Screen Software	Librarian	Librarian designed worksheet; observation of students in lab.

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.2,c	#1, 5, 8	Students will be able to describe how the computer does work and performs as a machine.	R	Review tasks performed by computers; up-date as necessary.	Application Keyboarding Word processing Database Graphics Communications packages	Computer Greatworks software	Librarian Cycle teacher	Worksheets Student demonstration

Technology

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.3	#1, 5, 7, 8, 9	Students will be able to recognize all the components of a computer system and describe the potential for expanded use to facilitate communication and information gathering.	R	Review (and up-date as needed) the components of a computer system and the benefits of networking.	Documentation Communications Network File Server LAN WAN Remote Protocol Handshake Network administrator Baud rate	Computer Station File server Network software Diagrams	Librarian	Librarian designed test. Student ability to log on to network and negotiate access to E-mail and databases.

[PROJECT/BRAS]

ey: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

303

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 4	#1, 8	Students will be able to describe uses of computers outside of school and possible consequences of system failures.	R	Review common uses of computers in other ways in which these computers could fail to operate.	System failure brown-out Operator error Power surge	Teacher Station Projection device Slides	Librarian	Observation of students discussion. Students develop and write a scenario describing a system failure and its impact.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

311

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.5	#5, 9, 10	Students will be able to identify computer-related occupations and skills required for future employment.	R	Discuss occupations that require computer skills.	As related to specific occupations.	Magazine articles On-line information	Librarian	Observation of discussion.

TR 10/88 6AS

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.6	#1, 9, 10	Students will be able to read computer-related books and magazines.	R	Introduce students to appropriate books and magazines.	As required by reading materials.	Books Magazines	Librarian	Observation of students.

Key: A Acquaint I Instruct D Develop to Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.7	#3, 7	Students will be able to utilize manuals.	R	Review how to use manuals for finding help.	As appropriate from manual.	Computer Peripherals Software	Librarian	Observation of students.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.8	#2	Students will be able to identify limits for computer use.	I	Discuss considerations when buying and using equipment and software.	Footprint Memory Storage	Catalogues Diagrams	Librarian	Student-designed spreadsheet detailing requirements for a personal computer purchase.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

313

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.9	#2, 4	Students will be able to recognize that computers have changed in size and power over time.	A	Explain the history of computers in terms of their size and processing capacity.	Generation Up-grade Operating system Main frame Mini-computer Microcomputer	Pictures Diagrams	Librarian	Worksheet, quiz.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL LEVELS

Stranda	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.11	#1, 8	Students will be able to recognize that moral issues impact on computer use.	I	Discuss the need for security and responsible use of data obtained electronically.	Down-load Password Freeware Shareware Piracy Virus Hacker Public domain Trojan horse Names of current viruses	Diagrams Displays on teacher station.	Librarian Teachers	Observation of student discussion and use of equipment.

TECH.CURR.8.1

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 12	#10	Students will be able to develop strategies to use equipment independently.	R	Demonstrate techniques for learning to use new equipment and software such as collaborative exploration, reading the manual, using help balloons, calling tech support, etc.	Collaborative Tech support Help screen/ help balloon	New software Unfamiliar equipment	Librarian Lab aide	Observation of students, student self-assesment in journals or lab reports.

TECH LIBRARY

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 1a,b,c,d	#5	Students will be able to keyboard efficiently (i.e. touch type at a rate faster than he/she can write.)	R	Review finger positions.	Home keys Keyboarding rate Speed Accuracy WPM	Greatworks	Teacher	Observation of students at keyboard.

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.2a	#2,3	Students will be able to take proper care of hardware and software and troubleshoot problems.	R	Review methods of cleaning and using equipment and how to ask questions in a logical sequence when equipment fails.	Freeze Locked Write-protected Back-up Bug Debug Crash Documentation High density Double density	Computers Peripherals Software	Librarian/Lab Aide	Observation of students using equipment and troubleshooting.

[illegible]

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

323

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.2.b,c,d,e	#3,5	Students will be able to access the programs and equipment they need, print their work, and resolve machine conflicts independently.	R	Review basic utility skills such as loading software, cleaning equipment, and loading the printer.	dpi Dot matrix Inkjet Laser Print buffer Print spooler Default Baud rate Bridge Router Gateway	Computers Peripherals Software	Librarian/Lab Aide	Students design a network.

Technology

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.a	#5,7	Students will be able to use a drill and practice program to learn and reinforce basic skills when needed.	R	Review instructions as required by program	As appropriate to program application.	Computers and required peripherals Software (e.g. Math Blaster, Super Munchers, U.S. Geography Adventure, Math Blaster Mystery, Algebra Drill/Practice)	Teacher	Observation of students; print-out of scores.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.b	#6	Students will be able to use a simulation program to learn about and create alternative scenarios.	R	Review instructions as required by program	Button Dashboard Map window Control panel Edit window Census window Others as appropriate to program application.	Computers and required peripherals Software (e.g. Oregon Trail, SimAnt, Wagon Train 1848, SimEarth, SimCity)	Teacher	Observation of students; print-out of student work.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.c	#5,7,10	Students will be able to use a problem-solving program.	R	Review instructions as required by program	As appropriate to program application.	Computers and required peripherals Software (e.g. Midnight Rescue; Decisions, Decisions, Neighborhood Map Skills, Ace Detective, Ace Reporter)	Teacher	Observation of students; print-out of scores.

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.d	#5	Students will be able to use a word processing program with spell-check and thesaurus.	R	Review instructions as required by program	Keycaps Kerning Jaggies	Computers and peripherals Software (e.g Greatworks)	Teacher	Review of student documents. Teacher-made test.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

333

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.e	#5	Students will be able to generate their own database.	R	Have students use data from any subject to create a data base.	Records Field Row Column Chart Bar chart Pie chart Relational database	Grestworks program	Teacher	Student-designed data-base.

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** SCIENCE, MATH

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.f	#5	Students will be able to generate their own spreadsheets.	I D	Using science or social studies data, explore the computation for percent and average; create spreadsheet and three types of charts to present the data graphically.	Chart Bullet Bullet chart Linking data Exporting data Column chart Bar chart Line chart Scatter chart Range x-y line Pie chart	Computers Greatworks Sample charts Teacher station	Teacher	Student-designed spreadsheets and graphs.

TECHCURR.SSF

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.g	#5	Students will be able to use a paint/draw program.	R	Review instructions as required by program.	Palette Draw ruler Text ruler Specifications window Zoom box Attributes Patterns Marquee tool Lasso tool Wand tool	Computers Software (e.g. Greatworks)	Teacher	Review of student documents.

TECHCURR.SSO

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8

Grade Level: EIGHT

Cooperating Department: ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.h	#3	Students will be able to recognize a utility program.	A	Review the concept of a utility program using a data compression program.	Compression	Computers Software (e.g. Disk Doubler)	Librarian Lab Aide	Observation of students.

TECHCURR.8SH

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Stranda	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.i	#5	Students will be able to use a graphics program.	R	Review instructions as required by program.	Control panel Format PICT TIFF Grayscale Clip art	Computers Peripherals Software (e.g. Greatworks)	Teacher	Review of student print-outs.

TECHCURR.RH

Key A Acquaint I Instruct D Develop in Depth R Reinforce

343

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.j	#4,5,7	Students will be able to use multi-media.	R	Review procedures for creating a slide-show. Explain how to use multi-media.	Multi-media Sequence Linking Stack Card Background Button Field Browse tool Electronic slideshow Loop Fade-out QuickTime -	Computers and peripherals with HyperCard, KidPix Companion, HyperStudio	Teacher	Observe students presenting completed programs to the class.

TECHNOLOGY

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

351

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.k	#5	Students will be able to use an on-line service, accessing information, and logging off.	R	Review the procedures for logging onto the service, accessing information, and logging off.	On-line Off-line Log-on Log-off Download Upload Bulletin Boards	Computers with modem and access to America On-line or another on-line service.	Librarian	Observation of student use.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.4.a b c d e f	#5,7	Students will be able to operate a scanner, CD-ROM, laser disc player, projection device, modem and FAX machine.	R	Review with students as necessary the correct procedures for operating peripherals.	As required for review.	Scanner CD-ROM's and drive Laser disc player Projection device Modem Computer Printer FAX machine Telephone	Teacher	Observation of student use.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** MUSIC

Stranda	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.4 g	#7	Students will be able to recognize the capabilities of a music synthesizer.	A	Demonstrate how a computer can be used to compose and play music.	MIDI interface Synthesizer	Computer with MIDI interface and appropriate instruments.	Teacher	Observation of student discussion.

THE PICTURE HAS

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.5a,b,c,d	#7	Students will be able to create a video program.	I	Students will be able to create a video program from scripting to recording and editing -- including interviewing techniques, on-camera poise, basic writing, basic camera shots, and producing a magazine show.	Review terms including: Camcorder Video in Video out Shouldering Headshot Storyboard Camera control unit Switcher Magnetic audio mixer Monitors Shooting script Editing Tape Medium shot Long shot Sound track Cable Broadcast Mass media	Video camera VCR Editing machine Lighting grid Stage flats Control room Computer/graphics	Librarian	Student observation

TECHCURR.89V

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 5-8 **Grade Level:** EIGHT **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 6 a,b,c,d	#3,4,5,7,10	Students will be able to identify and use appropriate technologies for performing tasks in an independent and competent manner.	A I D R	Provide access to all software and equipment available and act as coach as students determine what to use and execute independent projects.	Review as required.	Technology Resource Room and related equipment	Teacher	Observation of students demonstrating final project.

TECHCURR.WPZ

Key A Acquaint I Instruct D Develop in Depth R Reinforce

361

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 1,2,3,4	#1,2,3,5,7,8,9	Students will be able to identify and locate the parts of a computer and its related peripherals, explain basic operating procedures, identify components of a network, and recognize possible consequences of system failures.	I R	Introduce any new components students may need to know including DOS machine features as required for coursework (e.g. function keys, sound boards). Review key components necessary for use in subject area classes (e.g., light probes for science, graphic tablet for art, and character generator for TV production).	As necessitated by course requirements.	As necessitated by course requirements.	Teacher Librarian	As determined by teacher in each course.

TECHC1788.9A1

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS, GUIDANCE

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.5	#5, 9, 10	Students will be able to identify computer-related occupations and skills required for future employment.	R	Discuss occupations that require computer skills.	As related to specific occupations.	Magazine articles On-line (information)	Librarian	Observation of discussion.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Stranda	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.6	#1, 9, 10	Students will be able to read computer-related books and magazines.	R	Introduce students to appropriate books and magazines.	As required by reading materials.	Books Magazines	Librarian	Observation of students.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 Grade Level: NINE - TWELVE Cooperating Department: ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 7	#3, 7	Students will be able to utilize manuals.	D R	Demonstrate use of manual to find codes, passwords, or helpful information. Assign specific tasks that require use of manuals.	As appropriate from manual.	Computer Peripherals Software	Librarian	Observation of students.

Key: A Assistant I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A 8	#2	Students will be able to identify limits for computer use.	D R	Discuss considerations when buying and using equipment and software especially as they would be used in specific areas of study and/or occupations.	As necessitated by course requirements.	As necessitated by course requirements.	Librarian/Teacher	Projects delineating requirements and costs to set up a work station for a specified task.

TECHCURR.9A8

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.9	#2,4	Students will be able to recognize that computers have changed in size and power over time.	I D	Explain the history of computers in terms of their size and processing capacity.	Generation Up-grade Operating system Main frame Mini-computer Microcomputer	Pictures Diagrams	Teacher	Worksheet, quiz.

TECHCURR.9A9

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** MATH

Stranda	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.10	#1,2,4,8,9,10	Students will be able to list the characteristics of each generation of computers.	A I D R	Discuss the history of the computer, the concept of "generation" as it applies to computers, and how computer technology has developed over time.	See Math Curriculum, "Introduction to Computers."	See Math Curriculum, "Introduction to Computers."	Teacher	See Math Curriculum, "Introduction to Computers."

[illegible]

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL LEVELS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.11	#1,8	Students will be able to recognize that moral issues impact on computer use.	I D R	Discuss the need for security and responsible use of data obtained electronically.	Down-load Password Freeware Shareware Piracy Virus Hacker	Diagrams Displays on teacher station.	Librarian	Observation of student discussion and use of equipment.

TEC10/1/RR 011

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
A.12	#10	Students will be able to develop strategies to use equipment independently.	R	Demonstrate techniques for learning to use new equipment and software such as collaborative exploration, reading the manual, using help balloons, calling tech support, etc.	Collaborative Tech support Help screen Help balloon	New software Unfamiliar equipment	Librarian Teacher	Observation of students, student self-assessment in journals or lab reports.

TECTCTBR.012

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.1 and B.2	#2,3,5	Students will be able to access the programs and equipment they need, take proper care of hardware and software, conduct troubleshooting, and resolve machine conflicts independently.	R	Review how to access programs, care for equipment, and follow a logical sequence of questions when equipment fails.	Write-protected Back-up Bug Debug Crash Documentation	Computer Manuals	Librarian	Observation of students.

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.a	#5,7	Students will be able to use a drill and practice program to learn and reinforce basic skills when needed.	I R D	Review instructions as required by program.	As appropriate to program application.	Computers and required peripherals. Software as required by course.	Teacher	Observation of students; print-out of scores.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.b	#6	Students will be able to use a simulation program to learn about and create alternative scenarios.	I R D	Review instructions as required by program.	Button Dashboard Map window Control panel Edit window Census window Others as appropriate to program application.	Computers and required peripherals. Software (e.g., **SimLife**, **Simpolicon**, **EcoAdventures in the Rain Forest**, **Interactive Physics**, etc.)	Teacher	Observation of students; print-out of student work.

TP: [illegible]

Key: A. Acquire I. Instruct D. Develop or Depth R. Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.c	#5,7,10	Students will be able to use a problem-solving program.	I R D	Review instructions as required by program.	As appropriate to program application.	Computers and required peripherals. Software (e.g., **Moriarity's Revenge**, **Tesserae**, **Survival Math**, **Economics Mind Game**, etc.)	Teacher Librarian	Observation of students; print-out of scores.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** LANGUAGE ARTS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.d	#5	Students will be able to use a word processing program with spell-check and theasurus.	I R D	Review instructions as required by program.	Review as required by assignment.	Computers and peripherals. Software (e.g., Clarisworks, WordPerfect, Microsoft Word, etc.)	Teacher	Review of student documents.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

383

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** SCIENCE

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.e	#5	Students will be able to read and understand information presented in a database.	R	Students will collect data from various sources and create a data-base to illustrate their findings.	Record Field Row Column Chart Bar chart Pie chart	Teacher station Sample databses Software (e.g., Clarisworks)	Teacher	Review of student databases.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3 f	#5	Students will be able to collect data and present it in a spreadsheet.	I D R	Review the format for creating a spreadsheet and the computations available. Describe the features of the program that students will use including its graphing capabilities.	As necessitated by course requirements.	Computers Software (e.g., Clarisworks) Reference materials	Librarian	Review of students' spreadsheets and graphs.

TECHCURR.96F

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.g	#5	Students will be able to use a paint/draw program.	R	Review instructions as required by program.	Palette Draw ruler Test ruler Specifications window Zoom box Attributes Patterns Marquee tool Lasso tool Wand tool	Computers Software (e.g., Clarisworks, **Super Paint**, **MacPaint**, **MacDraw**) Reference materials	Teacher	Review of student documents.

TECHCURR96

Key: A - Acquaint, I - Instruct, D - Develop in Depth, R - Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** MATH

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.h	#3	Students will be able to recognize a utility program.	I D R	Review the concept of a utility program and demonstrate those available in lab.	As required by program.	Computers Software (e.g., **After Dark**, **Timeliner**) Reference materials	Librarian	Observation of students.

TECHCURR.9801

Key: A - Acquaint, I - Instruct, D - Develop in Depth, R - Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3,i	#5	Students will be able to usse a graphics program.	R	Review instructions as required by program.	Control panel Format PICT TIFF Grayscale Clip art Lay-out Fonts Type styles	Computers Peripherals Software (e.g.ClarisWorks, The Geometer's Sketchpad, PageMaker,etc.)	Teacher	Review of student print-outs.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

393

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.j	#4,5,7	Students will be able to use hypermedia software to create presentations.	R	Review the procedures required for the program; review setting up and using peripherals.	Multi-media Sequence Linking Stack Card Background Button Field Browse tool	Computers with **HyperCard, HyperScreen, or HyperStudio**.	Teacher Librarian	Observe students presenting their presentation.

TECHCURR.WK1

Key: A. Acquaint I. Instruct D. Develop in Depth R. Reinforce

401

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.3.k	#5	Students will be able to use an on-line service, accessing information, and logging off.	R	Review the procedures for logging onto the service, accessing information, and logging off.	On-line Off-line Log-on Log-off Download Upload Bulletin Boards	Computer with modem and access to American On-line or another on-line service.	Librarian	Observation of student use.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.4,a b,c,d,e,f	#5,7	Students will be able to operate a scanner, CD-ROM, laser disc player, projection device, modem and FAX machine.	R	Review with students as necessary the correct procedures for operating peripherals.	As required for review.	Scanner CD-ROM's and drive Laser disc player Projection device Modem Computer Printer FAX machine Telephone	Teacher	Observation of student use.

TECHCURR.004

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** MUSIC

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 4.g	#7	Students will be able to recognize the capabilities of a music synthesizer.	I D R	Demonstrate how a computer can be used to compose and play music.	MIDI interface Synthesizer	Computer with MIDI interface and appropriate instruments.	Teacher	Observation of student discussion.

Key A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	A I D R	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B.5,a,b,c,d	#7	Students will be able to create a video program.	D R	Demonstrate the process required to create a video program from scripting to recording and editing -- including interviewing techniques, on-camera poise, basic writing, basic camera shots, and producing a magazine show.	Review terms including: Camcorder Video in Video out Shouldering Headshot Storyboard Camera control unit Switcher Magnetic audio mixer Monitors Shooting script Editing Tape Medium shot Long shot Close-up Sound track Cable Broadcast Mass media	Video camera VCR Editing machine Lighting grid Stage flats Control room Computer/graphic	Teacher	Observation of student broadcasts.

TR:11t UNR 9/95

Key: A Acquaint I Instruct D Develop in Depth R Reinforce

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

Section: 9-12 **Grade Level:** NINE - TWELVE **Cooperating Department:** ALL AREAS

Strands	Proficiencies	Instructional Objectives	AIDR	Content	Vocabulary	Resources/ Equipment	Primary Instructor	Procedures for Assessment
B 6,a,b,c,d	#3,4,5,7,10	Students will be able to identify and use appropriate technologies for performing tasks in an independent and competent manner.	A I D R	Provide access to all software and equipment available and act as coach as students determine what to use and execute independent projects.	Review as required.	Technology Resource Room and related equipment.	Teacher Librarian	Observation of students using equipment and demonstrating completed, original projects.

[illegible]

key: A Acquaint I Instruct D Develop in Depth R Reinforce

Activities in Other Disciplines

Activities	K	1	2	3	4	5	6	7	8	High School
1. Language Arts - use word processing and other programs to facilitate the writing process by:										
a. storing large quantities of text and allowing for inserting, deleting, and rearranging;		A	A	A I	I D	R	R	R	R	I,D,R
b. matching the text against a variety of spelling, thesaurus, and punctuation "analyzers"; and		A	A	A	A	I D	D	R	R	R
c. printing attractive and uniform copy for poetry, prose, compositions, letters, journal entries, newspaper articles, scripts, and plays.		A	A	A I	I D	R	R	R	R	R
2. Mathematics - use problem-solving, simulations, graphics, and other programs for mathematics instruction by:										
a. performing tasks involving:										
1) logic and reasoning,	A	A	A	I	I	I	D	D	D	I,D,R
2) geometry,				A	A I	I	D	D	D	I,D,R
3) measurement, and				A	A	I	I	D	D	I,D,R

Key: A - Acquaint I - Instruct D - Develop in Depth R - Reinforce

Activities	K	1	2	3	4	5	6	7	8	High School
4) quantitative literacy, and	A	A	A	I	I	I	I	I	D	I,D,R
b. translating mathematical relations and functions with a calculator and/or computer.					A	A	I	I	I	I,D,R
3. Social Studies - use simulation, information retrieval, database, telecommunications, and other programs to learn about history, world cultures and geography by:										
a. gathering information from on-line databases, telecommunication "interviews," and opinion surveys;				A	A I	I	I D	D	R	R
b. assuming the role of a person in a simulated historical event to better understand "real world" events;				A I	I D	R	R	R	R	R
c. creating and manipulating databases and performing statistical analyses; and								A	I D	D,R
d. using electronic maps to identify landmarks, countries, continents, and other historical/geographical concepts.			A	I D	I D	R	R	R	R	R
4. Science - use simulation, database, information retrieval, and other programs to aid the development of scientific skills by:										
a. exploring worlds too small, fragile, dangerous, or complex in real life through simulations;				A	A I	A I	A I	I D	D R	I,D,R
b. storing, updating, retrieving, organizing, sorting, formulating, and performing computations on data from classroom experiments;						A	A	A	I	D,R
c. conducting "if-then" analyses to actively participate in hypothesis testing, prediction, and model building;									A I	I,D,R
d. tabulating data and creating tables and charts; and					A	A	A I	I D	R	R
e. using flow-charts to show sequence of lab procedures.						A	A	A	I	D,R

Key: A - Acquaint I - Instruct D - Develop in Depth R - Reinforce

Activities	K	1	2	3	4	5	6	7	8	High School
5. Programming:										
a. Identify standard flow-chart symbols and write flow-charts,										A,I,D,R
b. Explain the concept of programming,										A,I,D,R
c. List several computer programming languages and their applications,										A,I,D,R
d. Apply effective problem-solving strategies using a computer program,										A,I,D,R
e. Plan and write programs to solve problems, and										A,I,D,R
f. Develop and apply strategies for testing and debugging programs.										A,I,D,R

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD
EDUCATIONAL TECHNOLOGY CURRICULUM
K-12

MODEL OF INSTRUCTION

GUIDELINES FOR CURRICULUM COORDINATION MEETINGS, K-12

Librarian/Principal develop Calendar of Monthly Meetings for each grade (Grade K-4)

Librarian/Lead Teachers/Team Leaders/Department Chairs develop Calendar of meetings to discuss program/schedule of classes (Grades 5-12)

Librarian provides each cooperating teacher with appropriate grade level curriculum materials.

At each meeting:

Librarian and/or Educational Technology Coordinator identifies/defines:

- concept/skill to be taught,
- appropriate learning resources to be utilized,
- vocabulary to be incorporated,
- expected levels of achievement for students,
- procedures for evaluation of objective(s) and skills.

Teacher identifies:

- content areas for coordination/integration of educational technology/technologies.

Librarian and Teacher:

- cooperatively design the activities and the products and, when appropriate, the specific subject content.

SCHOOL DISTRICT OF SOUTH ORANGE-MAPLEWOOD

EDUCATIONAL TECHNOLOGY CURRICULUM: SAMPLE LESSON PLAN

SECTION:_____ GRADE LEVEL:____PROFICIENCY #:_____

IN COORDINATION WITH:_____

LESSON:

OBJECTIVE:

CONTENT:

VOCABULARY:

MATERIALS/RESOURCES:

EVALUATION/ASSESSMENT:

TITLE: Computer Jewelry

AUTHOR: Carol Carter Reece
Lausanne School
Memphis, Tennessee

MAJOR OBJECTIVES:

- To learn name and telephone number in case of an emergency
- To learn initial consonant and vowel sounds and the practical use of numbers
- To develop a positive self-esteem
- To learn that learning with a computer is fun and useful
- To build student-teacher rapport
- To become familiar with a computer keyboard

GRADE LEVEL: K

MATERIALS CHECKLIST:

- Minimum of one computer, printer
- Software: word processing with different fonts
- Scissors, stapler

TIME REQUIRED: 60 minutes for typing (2-4 minutes per student)

PREREQUISITE STUDENT SKILLS: None

ACTIVITIES AND PROCEDURES:

- Have the "caps lock" key depressed as most kindergarten students are learning the upper case alphabet and use a non-ornate type style. Working with each student individually, have each student type his/her name and home telephone number into the word processing program. Have students assume an active role; assist only if their finger rests on a key too long and repeats, or if they press an adjacent key. Instruct the student in the use of the delete key and allow him/her to correct their errors.
- After the student's first name and telephone number are typed correctly, have the student press the return key. Change the type font to one that consists of pictures (icons) instead of alphabet characters. Ask the student to type his/her name again, and the fun begins. Each student is delighted as he/she looks at the screen to discover which icon appear to represent each letter. Children reinforce concepts when they explain each letter-icon pair in their name, for example, "BRENT is my name. B is for bear, R is for rabbit, E is for ear, N is for nose, and T is for truck."
- After all students have completed their names, their work can be saved on a data disk and printed. Cut the pages into individual strips, one with each name/icon pair. Bend the strip into a circle and staple the ends to create a "bracelet." Standard 8-1/2" wide paper, slightly overlapped at the ends for a couple of staples makes an adequate bracelet size for everyone's hand to pass through.

FOLLOW-UP/EXTENSION:

Students get further reinforcement as others ask about the bracelet. The kindergartner has the opportunity to explain how each letter in his/her name is matched with an icon, thus reinforcing the academic content of initial consonants and vowel sounds, and building self-esteem as they say, "I did it myself on the computer!"

TITLE: Cotton Capers, Adventures with Peter Rabbit

AUTHOR: Teri McNee
Glenwood School
Thousand Oaks, California

MAJOR OBJECTIVES:
- To use computer software to integrate *Peter Rabbit* into different curricular areas
- To bring literature alive for children

GRADE LEVELS: 1 - 2

MATERIALS CHECKLIST:
- One or more computers; large screen monitor (optional); printer; tape recorder
- Software: timeline, graphics, word processing, database, desktop publishing
- *Peter Rabbit* by Beatrix Potter, *Beatrix Potter and Hilltop* by Judy Taylor, audio cassette of story of Peter Rabbit

TIME REQUIRED: 6-8 weeks

PREREQUISITE STUDENT SKILLS:
- Basic keyboarding skills, familiarity with using desktop publishing software and basic Logo commands and introduction to database terminology

ACTIVITIES AND PROCEDURES:
- Prior to initiating independent activities, model them by providing a demonstration to the whole class using a large screen monitor. To facilitate classroom management, implement the "Ask three before me rule" to encourage students to help each other. Use study buddies or cross-age tutors to facilitate the development of word processing and database skills. Divide the class into groups of three comprised of a "navigator" (reader), "co-pilot" (data entry person), and "computer MVP" (troubleshooter).
- Activities #1: "Mad Rabbit Tea Party": Have each student bring in a favorite stuffed rabbit for a rabbit tea party. Listen to the audio cassette of *Peter Rabbit*. Discuss the similarities and differences between real and make-believe rabbits.
- Activity #2: "Peter Rabbit. . . "This is your day!": Read *Peter Rabbit* . Compare pictures of Mr. McGregor's garden to the real garden at Beatrix Potter's Hilltop Farm, (Taylor book). Call on students to orally retell the story, placing events in the correct order. Use timeline software to create a timeline of the events that happened to Peter in one day. Illustrate the timeline. Make up a new ending for Peter's day.
- Activity #3: "How Does Your Garden Grow?": Ask students to locate in the book the description of Mr. McGregor's garden. Reread this section orally, using choral reading techniques. Conduct an oral survey of the students' favorite "rabbit food." Use graphing software to create a bar graph of the results, and use word processing software to create story problems that can be solved with facts in the graphs.
- Activity #4: "Where, Oh Where, Has My Little Rabbit Gone?": Using Venn Diagrams, compare and contrast physical characteristics of the students' stuffed rabbits. Have each student complete his/her own rabbit's record in a teacher-created database template [Student's Name, Rabbit's Name, Size, Color, Ears (Y/N), Tail (Y/N)]. Have students complete a teacher-created worksheet with questions answered by browsing, sorting and finding information in the database. Have students analyze data, make comparisons and draw conclusions.

TITLE: Patterns

AUTHORS: Joanne Howell and Suzanne Sigfridson
Maple Grove, Minnesota

MAJOR OBJECTIVES:

- To experience pattern sequences
- To see patterns in daily life
- To use patterns of color, shape, texture
- To appreciate patterns in quilts and stories about quilting
- To express their ideas about what they do and hear
- To acquire computer skills for drawing and writing

GRADE LEVEL: 2

MATERIALS CHECKLIST:

- Multiple computers; printer
- Software: graphics, word processing, spelling checker

TIME REQUIRED: flexible

PREREQUISITE STUDENT SKILLS: None

ACTIVITIES AND PROCEDURES:

- Display a quilt and books about quilts and quilting. Read one or more books during story time.
- Have students create a pattern using graphics software and create bookmarks and other items that include the pattern.
- Have each student use graphics software to draw and sequence shapes or create "mirror" shapes and sequence them to create a pattern. Then, have them print and cut out their patterns to use for a "paper quilt" display.
- Have each student use word processing software to write a paragraph about their favorite pattern or favorite childhood blanket. Have them use a spelling checker to proofread their paragraph, then make corrections and print the final document.
- Have students create a class booklet with their paragraphs and drawings.

FOLLOW-UP/EXTENSION:

- Hold a "wear a pattern" day.
- Write a class story about what the world would be like without patterns.
- Make a bulletin board quilt from paper, using colored designs cut in geometric shapes.

TITLE: Canada and U.S. Pen Pals

AUTHOR: Audrey H. Lundie
Seaforth Elementary School
Vancouver, British Columbia
Canada

MAJOR OBJECTIVES:

- To use telecommunications as a means of accessing up-to-date Space Shuttle information from NASA's Spacelink bulletin board in Huntsville, Alabama and exchanging observations with students near the Shuttle landing site at Edwards Air Force Base, California
- To exchange information between schools in Canada and the USA or any two cultures

GRADE LEVEL: 3 - 5

MATERIALS CHECKLIST:

- Multiple computers; printer; modem; phone line
- Software: word processing, communications
- Password for NASA's Spacelink bulletin board, electronic mail facility

TIME REQUIRED: On-going

PREREQUISITE STUDENT SKILLS:

- Previous experience in brainstorming and prewriting as a group activity
- Basic keyboarding skills and introductory use of word processing software

ACTIVITIES AND PROCEDURES:

- Introduce how to send and receive files using communications software and a modem.
- Establish an account with NASA's Spacelink bulletin board at the Marshal Space Flight Center in Huntsville, Alabama (205/895-0028). Have students use the system for a period of time until they feel comfortable with logging on, accessing information, leaving questions for NASA, and logging off.
- Establish an account with an electronic mail messaging facility. Many universities around the world are networked, and many allow teachers to use their systems at no charge. There are many commercial networks which also provide this service.
- Establish a link with another teacher and class willing to participate in a telecommunications project with your class. Make sure that both parties understand the commitment of time and energy that will be required to make the project successful. Prompt response time is essential as the students will want to know immediately if their computer pen pals have replied. Be aware of your partner's holiday times as they vary from country to country.
- Once contact has been established, have students begin exchanging information about themselves and their class, gradually broadening information communicated to include information about their families, community and country.
- Have students write to a school within driving distance of Edwards Airforce Base so that computer pen pals can be the "eyes" at the scene for a school from another country or city. During Space Shuttle flights, compare information gained from Spacelink with actual on-site information obtained from students near the landing site.

FOLLOW-UP/EXTENSION:

- Have students exchange photos of themselves and materials about their area by mail to their computer pen pals.
- Have students write articles about what they learn for the school newspaper.
- During Space Shuttle flights, notify the local press of your class activities.

TITLE: Heat and Temperature of Computers

AUTHOR: Cheryl P. Grobel
Wythe Elementary School
Hampton, Virginia

MAJOR OBJECTIVES:
- To conduct a scientific experiment
- To record and analyze data
- To test the hypothesis that the greater the computer usage, the greater the computer's temperature

GRADE LEVELS: 4 - 5

MATERIALS CHECKLIST:
- Two computers; printer
- Software: science, graphing
- Two thermometers, scotch tape, clock or timer, chart for recording temperatures

TIME REQUIRED: 2 class periods

PREREQUISITE STUDENT SKILLS:
- Basic computer and software skills
- Introduction to science software used
- Introduction to concepts of hypotheses, independent and dependent variables, constants

ACTIVITIES AND PROCEDURES:
- Introduce the hypothesis: the greater the amount of on-line computer usage the greater the computer's temperature will be. Discuss the fact that the independent variable is computer usage, the dependent variable is the computer's temperature, and constants are the computer, thermometer, recording device, clock/timer, tape, location of thermometer, location of computer and how often thermometer read.
- Have students tape a thermometer on the left side of each of the two computer keyboards.
- Have students record the beginning temperatures.
- Have students load the science software into one computer and set the timer for 10 minutes. The other computer remains off.
- At the sound of the timer, students record the temperatures of both computers.
- Have student continue recording temperatures every 10 minutes for a duration of 40 minutes.
- Have students compile the results and analyze their data to determine if the hypothesis is valid.

FOLLOW-UP/EXTENSION:
- Have students use graphing software to create a graph that shows the results of the experiment.
- Ask students to name other machines they know, and conduct a scientific experiment to test the hypotheses that these machines generate heat.
- Have students write their ideas about the relationship between temperature and work and share them with their classmates.

TITLE: Modem Pen Pals

AUTHOR: Carla D. Schutte
Drew Model School
Arlington, Virginia

MAJOR OBJECTIVES:

- To use terminology related to the use of the modem and communication software
- To transmit and receive information using the modem
- To demonstrate the ability to work cooperatively on a group project
- To learn uses of telecommunications
- To develop skills in using word processing software for written work
- To develop skills in using database software

GRADE LEVELS: 4 and 6

MATERIALS CHECKLIST:

- One or multiple computers; modem; printer; telephone line
- Software: on-line simulation package, word processing, communications, database

TIME REQUIRED: 5+ class periods

PREREQUISITE STUDENT SKILLS:

- Basic familiarity with the computer and software
- Introduction to telecommunications

ACTIVITIES AND PROCEDURES:

- Demonstrate how to use a modem to groups of students in two different schools. Then provide students with an opportunity to practice using the on-line simulation software. Discuss terminology, procedures, on-line etiquette, and students' responsibilities as users.
- Have each group of students plan questions to ask their partner group in the other school.
- In the first actual on-line session, have the two groups use the modems and a telephone line to exchange questions; afterwards, break the classes into groups to answer the questions they have received.
- During a second on-line session, have the groups exchange answers to the questions.
- Assign one student group the task of planning a questionnaire (to be used with database software off line) to collect information in order to match each student with an "electronic pen pal" in the other class. Transmit the database questionaire and have students in the other class fill in the information requested and send back the completed file.
- Have students enter the information into the database and use the responses to choose pen pals in the other class. Have students write to their new pen pals, requesting them to send back stories or poems they have written.
- Introduce students to local bulletin boards and on-line sources of information which they can use to find information for themselves and for their electronic pen pals.

TITLE: Kids News

AUTHORS: Sheryl Abshire & Michelle North
College Oaks Elementary School
Lake Charles, Louisiana

MAJOR OBJECTIVES:

- To gather factual information concerning the different components of a television news broadcast
- To compose and write interviews and news stories based on research information obtained from the newspaper, radio, and television
- To improve verbal communication skills by "performing" in front of a video recorder
- To improve creative writing and thinking skills by developing original scripts
- To use a computer and VCR together to produce original video productions

GRADE LEVEL: 5

MATERIALS CHECKLIST:

- Multiple computers; printer; VCR; videocamera, video and audio dubbing cables
- Software: word processing, graphics

TIME REQUIRED: 3 weeks

PREREQUISITE STUDENT SKILLS:

- Familiarity with computer and word processing and graphics software

ACTIVITIES AND PROCEDURES:

- Discuss the importance of being well-informed in today's society and how the news media impacts us. Invite local television news reporters to visit the school and explain all segments of news reporting and broadcasting.
- Outline segments of the 30 minute broadcast and areas of responsibility for each segment. Allow students to select what areas they would like to work on in groups; (news reporters, anchor persons, commercials, weather, sports).
- Have the students watch a news broadcast on television each night so they might see their "heros" and get ideas for their production. Suggest reading the front pages of newspapers and listening to the radio to get ideas for stories to cover.
- Arrange for a guided tour of the local television station.
- Have the students brainstorm ideas as to what particular stories and commercials will be used in the news segment.
- Working in groups, have the students draft, edit and rewrite their scripts, using a word processor, for news stories, interviews, commercials, weather reports, sports reports, etc.
- Begin filming the different segments of the broadcast. This can be done several times to allow students to critique their work and make necessary changes.
- Using a graphics program, have the students create introductory and transitional segments to "tie" the broadcast together.
- Using the computer and VCR linked by the dubbing cables, edit the original tape and add the computer-generated graphics.

TITLE: Creative Writing

AUTHOR: Gail B. Finlay
George Washington Middle School
Ridgewood, New Jersey

MAJOR OBJECTIVES:
- To produce a piece of creative writing
- To use word processing and graphics software
- To create a classroom journal combining creative writing and graphics

GRADE LEVELS: 6-8

MATERIALS CHECKLIST:
- Multiple computers; printer
- Software: word processing, graphics

PREREQUISITE STUDENT SKILLS:
- Basic familiarity with the computer and word processing software

ACTIVITIES AND PROCEDURES:
- Stir up the students' imaginations with the following:
  (1) What is imagination?
  (2) Are your imaginations like anyone else's?
  (3) Who are some people who use imagination?
  (4) Tell them that they will be dreaming and imagining and creating word pictures of things that might never have existed or happened.
- Present the students with, "What Would Happen If..." scenarios. For example, "what would happen if ..."
  (1) vegetables could talk;
  (2) your brother turned into your sister;
  (3) water in the oceans evaporated;
  (4) all clocks stopped;
  (5) people decided to no longer work for minimum wage;
  (6) everyone looked alike; or
  (7) all trees began growing money?
- Have the students brainstorm their ideas in phrase form, using the word processor, and print out their notes.
- Have the students use their ideas to develop a story, proof/edit it, and print out a copy.
- Have them proof one another's, edit, and print a final copy.
- Demonstrate the graphics software. Have the students create a picture to illustrate their stories. Print the picture at the top or bottom of their stories.
- Combine the stories to make a class booklet.

FOLLOW-UP/EXTENSION:
Spend a class period sharing the stories and pictures and talking about new ones to write. As a larger project, have the students create a literary magazine.

TITLE: TV Script Writing

AUTHOR: Patricia Shubitz
Steinway Junior High School
Long Island City, New York

MAJOR OBJECTIVES:

- To describe the literary elements of a weekly television program
- To write an episode of that television program, including dialogue, descriptions of each scene, and staging directions

GRADE LEVELS: 7- 8

MATERIALS CHECKLIST:

- One or multiple computers (one for every 3-4 students); printer
- Software: word processing

TIME REQUIRED: 12 class periods

PREREQUISITE STUDENT SKILLS:

- Basic computer skills

ACTIVITIES AND PROCEDURES:

- Ask students to name their favorite television program. Reach a class consensus on one program. Have students watch that program for homework.
- On the following day, write the name of the program in the center of a large sheet of paper. Have students brainstorm words describing the type of program and its setting. Write these on the paper surrounding the name of the show. Then write the names of the characters all over the page, and note these characters' traits surrounding their names.
- Brainstorm as a class, or in small groups, to create an episode for the program. Consider: Who are the major characters in this episode? Around whom is the majority of the action centered? Which character is the basis for the conflict? Does the conflict concern two people or is it one character's internal conflict? What is the major twist that the story takes? Is the conflict resolved? How is it resolved?
- Once the story for the episode is established, have students work in groups to create the dialogue using word processing software.
- Have each group choose one person to create the dialogue for each character by improvisation. Have each student, including the one at the keyboard, play the role of a character and determine the tone of the dialogue, i.e., comedy or drama.
- Remind the students that they must also be directors, including a written description of each scene, its setting, and the movements and actions of the characters in the script.
- Let students rehearse their scripts periodically to fine tune the dialogue.
- Have each group edit their script and then print a final copy.

FOLLOW-UP/EXTENSION:

Have students do a staged reading of their script for other groups in the classroom, and then act it out for the school.

TITLE: Class Link Project

AUTHOR: Rita G. Quinn
Cornwall Consolidated School
West Cornwall, Connecticut

MAJOR OBJECTIVES:

- To increase the daily interaction of students with other "classmates"
- To link together classes of students in two small schools using telecommunications

GRADE LEVEL: 8

MATERIALS CHECKLIST:

- One computer; modem; telephone line; on-line services
- Software: communications
- Two teachers willing to develop on-line programs to use together

TIME REQUIRED: School year

PREREQUISITE STUDENT SKILLS:

- Basic familiarity with the computer and software
- Introduction to telecommunications

ACTIVITIES AND PROCEDURES:

- Collaborate with a teacher in another location in the U.S. to put together cooperative assignments and activities in various curricular areas. Once contact is established, try to work together on line.
- Language Arts: Together, develop a series of writing assignments. Have students use word processing software to write. Review students' work with the collaborating teacher by sharing the writing files between the two classes. Group students in the two classes together for instruction, with some groups of students taking instruction via modem in one or more content areas.
- Science: Have both classes participate in a science telecommunications project. Share findings with each other as well as with a wider telecommunications network.
- Social Studies: Use the fact that the schools are situated in different parts of the country to explore different issues and perspectives; share these insights during on-line discussions of current events. Learn what makes headline news in both areas of the country.
- Research Skills: Have students sharpen research skills by accessing databases that contain information difficult to find in small communities with limited local resources. Demonstrate to students the educational advantage of access to a larger library.
- Social Interaction: Provide each student with a private mailbox on line for corresponding with other students to increase the social interaction so important for students in a small school.

TITLE: Gaining Skills in Telecommunications

AUTHOR: Cheryl D. Nefflen
Randolph County Vocational Technical Center
Elkins, West Virginia

MAJOR OBJECTIVES:

- To gain experience and increase skills in telecommunications
- To reinforce previously taught skills in using telecommunications applications
- To increase confidence in the use of telecommunications

GRADE LEVELS: 9-12

MATERIALS CHECKLIST:

- One computer; modem; telephone line; access to an electonic bulletin board (BBS)
- Software: communications

TIME REQUIRED: One-hour time block for each activity

PREREQUISITE STUDENT SKILLS:

- Basic familiarity with the computer and software
- Telecommunications knowledge and capabilities

ACTIVITIES AND PROCEDURES:

- Hide messages for students on an electronic bulletin board to create an on-line "scavenger hunt."
- Have students sign on a network and access their personal mail to find a message directing them to the next location on the BBS, to find a second "hidden" message. Use this technique to get students to explore various sub-boards.
- Include special assignments within messages. For example, use a message to direct the student to sign off the network, go to the library, browse through some magazines pertaining to computers, write a report, bring it back to class, type it on the word processor, and, perhaps, present it to the rest of the class.
- Or, have the student access the announcements or bulletins listed on the board and print copies of them to turn in.
- Or, instruct the student to enter a message for another student, take a break to get a drink of water, etc.
- Evaluate students' completed assignment(s) such as printed copies of the bulletins, printed reports of magazine articles, messages left to another students, etc.

FOLLOW-UP/EXTENSION:

Have students use the bulletin board to access a message which contains their grade on the assignment and print a copy of it. Tell students to delete the message and leave a reply for their instructor acknowledging that they received the message.

ADDITIONAL NOTES:

Use this assignment(s) to test student recall and retention of earlier lessons about telecommunications. In addition, the assignment tests if students can make a transfer of knowledge based on prior instruction to a new application.

TITLE: The MusicBio

AUTHOR: Susan Pellegrini
Ridge High School
Basking Ridge, New Jersey

MAJOR OBJECTIVES:

- To develop a working knowledge of telecommunications concepts and practices
- To develop writing, organization, and comprehension skills
- To develop motivation for writing by using positive rewards
- To develop public speaking skills by using the interview process and video critique
- To create a stronger positive self image
- To develop skills in using word processing software and video production

GRADE LEVELS: 9-12

MATERIALS CHECKLIST:

- One computer; modem; telephone line
- Video camera; VCR; television monitor(s); video editing machine (optional)
- Software: word processing, communications

TIME REQUIRED: 3 weeks

PREREQUISITE STUDENT SKILLS:

- Basic familiarity with the computer, software, and telecommunications

ACTIVITIES AND PROCEDURES:

- Have students use "process writing" to construct a personal history using music as a theme, a "MusicBio."
- Have students use brainstorming and peer teaching as part of the process approach.
- To help students get started, give them a RockBio Brainstorm List. This list might include writing prompts such as student's favorite song now and five years ago, songs that make the student feel happy, lonely, sad, etc. Allow students to listen to music on a tape player to recall memories. Encourage students to work with peer partners who can share their memories, and work with them on the editing process.
- Have both peer partners work with the RockBio to create an interview from the information. Assign students to create a five-minute interview, videotaped and edited. Then have partners switch roles. Share the videotaped RockBios in class. Have the class critique the program.
- Send the written biographies to schools participating in a telecommunications exchange and request their students to send biographies in return. Have students crtitique the exchanged RockBios and send a reply to the partner schools. Have the students share their video interviews with the partner schools.

ADDITIONAL NOTES:

My students chose Rock music as the most relevant to them; therefore their work was called "RockBios," however, any type of music is applicable. The purpose of using music as an emphasis is that it triggers emotional memories of specific events. Students like the fact that they are part of a network which includes peers from around the world. They feel they are participating in the "future of education."

TITLE: Earth Link

AUTHOR: Rita Henry
Glen Ridge High School
Glen Ridge, New Jersey

MAJOR OBJECTIVES:

- To isolate and define local environmental events linked to regional, national, and international environmental trends
- To link these local environmental events such as drought, flooding, and pollution to their consequential impact on human and environmental problems such as health hazards, economic destruction, and the greenhouse effect
- To engage science classes in the creative process that guides the successful communication of scientific knowledge, along with its attendant social responsibility
- To link students in science classes around the world via telecommunications and satellite to share research and create a dialogue

GRADE LEVELS: 9-12

MATERIALS CHECKLIST:

- One computer; modem; telephone line
- Software: communications, word processing, spreadsheet, database
- Subscription to on-line services and data networks

TIME REQUIRED: 2-3 weeks for initial research; ongoing work through school year

PREREQUISITE STUDENT SKILLS:

- Basic familiarity with the computer, telecommunications, and word processing, database, and spreadsheet software
- Library and database research skills; ability to work in groups

ACTIVITIES AND PROCEDURES:

- Divide students into small groups to select and conduct research on an environmental issue. Have students gather information from both print media and on-line sources such as AP and UPI stories, NOAA Weather Wire weather warnings, message threads from on-line scientific conferences, and electronic mail. Also, let them download Weather Service weather maps as graphics files for comparative study. Have students search on-line databases for information.
- Have each group download information from on-line sources and key additional information into word processing, spreadsheet, and database software to create a report with statistics illustrating the links between local/regional events and national/global events and predicting trends. Ask students to analyze the source and scope of problems and to report and/or suggest local, regional, and global solutions.
- Have students share their reports with the class and post them on an electronic bulletin board.
- Have students write a comparative study (of their report and the reports of others in the class) as an addendum to their own report.

FOLLOW-UP/EXTENSION:

Encourage students to find and pursue cooperative action with the students they have contacted on line. Also, have students exchange cultural and geographic data on line.

TITLE: A Window on the World

AUTHOR: Peni Martel
Cariboo Hill Secondary School
Burnaby, British Columbia, Canada

MAJOR OBJECTIVES:

- To develop awareness of the role of telecommunications and uses of various telecommunications technologies
- To foster an understanding of the use of computers and software in the telecommunications process, e.g., word processing, database, and modems
- To increase awareness of the world as a community through participation in a world-wide event, i.e., viewing the Olympics and sending Olympicgrams
- To create a personal Olympic experience for each student
- To encourage students to become involved with their national team

GRADE LEVELS: 9-12

MATERIALS CHECKLIST:

- One or multiple computers; modem(s); telephone line; printer
- Other telecommunications resources (optional)
- Software: communications, graphics, word processing
- VCR and television monitor(s)

TIME REQUIRED: Three weeks preparation; two weeks to view Olympics; two weeks to complete a project

PREREQUISITE STUDENT SKILLS:

- Basic familiarity with the computer and software
- Telecommunications knowledge and capabilities

ACTIVITIES AND PROCEDURES:

- Encourage students to send *Olympicgram* messages to athletes of their choice. Transmit messages directly to the Olympic Communications Center where they can be relayed to The Olympic Village. Or, send messages to participants in another international event.
- Have students view the Olympics or other event daily; establish a direct feed from a satellite dish to a *global classroom* of world news sources. Foster an awareness of the importance of telecommunications by viewing both taped and live events. Discuss satellite receivers and earth stations to illustrate the telecommunications resources needed to send messages to the athletes and to view events such as the Olympics.
- Have students read relevant newspapers and magazines, plus database materials.
- Assign students a written report or presentation on a variety of topics relating to the Olympics or another international event such as profiles of present or former Olympians, or reports on highlights or incidents during current or past Olympics, etc.

FOLLOW-UP/EXTENSION:

Take students on a field trip to a telecommunications center. (We visited *Teleglobe Canada.*) Or, invite a former Olympic athlete (Joy Fera, a rower in the '76 Olympics, came to our school) to speak at your school on topics such as random drug testing and the meaning of *Olympic Spirit.*

TITLE: From Research to Database

AUTHORS: Terry Bledsoe and Debbie Kincaid
St. Stephens High School
Hudson, North Carolina

MAJOR OBJECTIVES:

- To use the proper steps in planning a database based on predicted findings
- To complete research on every item included in the song, "We Didn't Start the Fire," by Billy Joel, using a CD-ROM encyclopedia and other research materials including newspapers, magazines, and books
- To use word processing software to summarize information found
- To construct a database for organizing information found
- To perform sorts and searches on the database created

GRADE LEVELS: 9-12

MATERIALS CHECKLIST:

- Multiple computers; printer; CD-ROM player
- Software: word processing, database, CD-ROM encyclopedia
- Typed copy of the song "We Didn't Start the Fire" by Billy Joel

TIME REQUIRED: 3 weeks: 8 days for initial research; 7 days for database

PREREQUISITE STUDENT SKILLS:

- Basic computer, word processing and database skills
- Basic research skills

ACTIVITIES AND PROCEDURES:

- Part I: Research component. Provide a copy of Billy Joel's song "We Didn't Start the Fire" to each student, and have each student complete research on every name, event, place, invention, etc. in the song.
- Using the CD-ROM encyclopedia as the main research tool, instruct the students in the proper use of this tool, including how to search by word and title and how to print the information found. Have students do further research using newspapers, books, magazines, etc.
- Have each student research an equal number of items (10 items, if there are 12 students in class, as there is a total of 120 items in the song).
- Have students research each item to determine historical significance, use the word processing software to summarize information found, and present information on their items to the class, so that all students have information on all 120 items.
- Have each student compile all information, including a list of research materials used, into a notebook.
- Part II: Planning Database. Instruct students on how to plan a database.
- Determine field names to be used. Field names should include: Year, Type, Historical Significance, Country and Full Description.
- Have students determine the year for each item from the song. Organize types into different groups: PE1= a person, PE2= a political person, EV1= an event which had a positive effect, EV2= an event which had a negative event, AR= arts--music, literature, etc., PL= place, and IN= invention.
- Have students set up their own database and enter the information for their items. Allow student discretion as to exact names for the fields "Historical Significance" and "Full Description," since some names will not fit properly into field widths.
- Have students run several searches and sorts on the completed database, e.g., political figures--PE2, all items from USA, and all items from 1949 through 1950.

TITLE: My Company on Wall Street

AUTHOR: E. Jane Alter
Centerville High School
Dayton, Ohio

MAJOR OBJECTIVES:
- To develop reading, writing, and communication skills
- To enhance problem solving and analytical skills
- To experience a business world simulation

GRADE LEVEL: 9 - 12

MATERIALS CHECKLIST:
- Multiple computers; printer; modem; phone line
- Software: spreadsheet, database, graphing, word processing, communications, on-line telecommunications service with corporate and stock reports

TIME REQUIRED: School year, 55 minutes per day

PREREQUISITE STUDENT SKILLS:
- Basic familiarity with using the computer and word processing, database and spreadsheet software

ACTIVITIES AND PROCEDURES:
- Have each student choose a public corporation (preferably a producer/manufacturer of something the student has used and likes) to follow during the school year.
- Students "invest" $1,500 in October in their company.
- Bimonthly, have students collect news from the on-line service and update their stock performance in a database.
- Students periodically write and give oral presentations on their company, including news stories and information on stock performance.
- At the end of the school year, have each student "sell" his/her stock, write an analysis of their company (using word processing software), (using database and graphing software) (using spreadsheet software).
- Using the database and spreadsheet software, have students prepare graphs of their stock's performance across the year and a financial report on the company. Have students prepare a written analysis of their companies, using word processing software.

ADDITIONAL NOTES:
This project is used with all students in Introduction to Business classes. These classes include high achieving, college bound students as well as low achieving vocational students. While these low achieving students rarely hear good discussions because of ability grouping, they have been out in the working world and add much to the class.

APPENDIX I

Educational Technology Curriculum

Glossary

of

Educational Technology Terms

Educational Technology Curriculum Glossary

A

Application - A computer program designed to get a specific task done, i.e., word processor application.

B

Backup - (v)to make a duplicate copy of data.
(n)duplicate copy.

Bit - The smallest unit of information in a computer system. Bit is short for binary digit; either a "1" or a "0".

Board - A cluster of electronic chips and circuitry used to operate or enhance a computer.

Boot - The process of turning the computer on.

BPS - Bits Per Second

Buffer - The space reserved in a computer or printer's memory (RAM) for temporarily storing data.

Byte - One character of information. A byte is made up of eight bits.

C

CD-ROM - A permanent storage device which uses a laser disk drive to read information. Stands for Compact Disc-Read Only Memory.

Chip - A small piece of silicon containing thousands or millions of electrical elements.

Click - The process of quickly pressing and releasing a mouse button.

Clone - An imitation.

Copy protection - The resistance to unauthorized copying of software.

Copyright - Law protecting unauthorized use of information copying.

CPU - The main computer chip that interprets and executes instructions. CPU is for Central Processing Unit.

Cursor - The point on a computer's monitor that indicates a point of action or attention. Usually appears as a flashing line.

D

Default - The predetermined action taken when no other choice is made.

Desktop case - The style of computer case that sits on top of a desk.

Diskette - A small, flexible disk used to store information or programs.

Double-click - The process of quickly pressing and releasing a mouse button twice.

Drag and drop - The process of aiming the mouse pointer at an item on the screen, holding down a mouse button and moving your hand to "drag" it a new location.

E

E-mail - Sends messages to another person on a network.

Escape - The computer key used to exit a routine.

Extended memory - Electronic memory in a computer above 1 megabyte.

F

Fax - A way of transmitting copies of documents over telephone line. Fax is short for facsmile.

File server - The computer on a network that stores programs and data.

Floppy - A small, flexible disk used to store information or programs.

Function keys - Keys labelled F1 through F12.

G

Gateway - A device that connects zones of a network which uses different languages.

Gigabyte - Approximately one billion (or a thousand million characters.)

H

Hard disk - A storage device made up of hard metal platters. Information is stored magnetically on these platters.

Hardware - Any physical part of a computer, including the case, keyboard and monitor.

Hertz - A unit of frquency that means cycles per second.

High-density - The amount of infrmation a disk can hold.

I

Input - Any information you put into a computer.

K

Kilobyte - Approximately on thousand characters.

L

LAN - A network that covers a small geographic area. LAN stands for Local Area Network.

Laser printer - A printer that uses a laser beam to create an image on paper.

M

Megabyte - Approximately one million characters.

Memory - The area where the computer stores the information it is currently working with. It is temporary, so if the computer loses power, all information in memory is lost. Also called RAM.

Modem - A device that allows computers to communicate through telephone lines.

Monitor - A television-like device used for displaying visual output.

Motherboard - The main circuit board of a computer which carries electrical signals to and from parts parts of the computer.

Mouse - A hand-held device that is moved on a flat surface to move a cursor on the screen.

N

Network - Computers that are linked together to share data, programs and peripherals.

Notebook - A small, portable computer, usually run on batteries.

O

Operating system - The "master control" program that supervises all other programs that run on a computer. It is responsible for interpretating commands, controlling input and output and operating the disk drives.

P

Parallel port - An outlet on a computer used to attach a device, such as a printer. A parallel port sends the data (bits) down the wire side by side (parallel to each other).

PC - Stands for Personal Computer.

Peripheral - Any piece of hardware attached to the outside of a computer. Examples are printers, scanners and modems.

Pixel - Short for "picture" element". A pixel is the smallest dot the computer can control on the screen.

Point - A measure of type size. One point is 1/72 of an inch.

R

RAM - The electronic memory of a computer which is used to temporarily hold information. RAM stands for Random Access Memory.

Resolution - The size and quality of dots that make up a printed page, screen or scanned page.

S

Scanner - A piece of hardware that translates what it "sees" into a picture that the computer can use. It is like a copier, only it creates a file instead of a paper copy.

Serial port - An outlet on a computer used to attach a device, such as a modem. A serial port sends the data (bits) down the wire on at a time (in a series).

SIMM - A small expansion card that holds extra memory(RAM) chips to add to your computer. SIMM stands for Single Inline Memory Modules.

Software - Instructions or programs that enable a computer to perform any task.

Surge and spike protector - A device that protects the computer from fluctions in voltage.

T

Tower case - The type of computer case that can sit on the floor.

Turbo button - A button on some computers that switches between two preset speeds.

U

UPS - A device that provides battery power if the electricity goes off. This enable you to first save the data you are working with before turning the computer off. UPS stands for Uninteruptible Power Supply.

V

VGA - A high resolution adapter or monitor.

Video adapter - The piece of hardware that controls the monitor.

Virus - A program that is used to infect the operation of a computer.

W

WAN - A network that covers a large geogrpahic area such as several cities. WAN stands for Wide Area Network.

Windows - An operating system for personal computers or networks using icons that allows for two or more applications can be open at the same time.

Write-protect - A method of preventing the data diskette from accidently being written over. Similiar to the tab on a VCR tape that you break off to protect the tape(cassette)from being recorded over.

WYSIWYG - Stands for "What You See Is What You Get". Refers to programs that display information on the monitor the same way it will appear when it prints, including fonts and graphics.